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THROUGH CENTRAL BORNEO

AN ACCOUNT OF TWO YEARS' TRAVEL IN THE LAND OF THE HEAD-HUNTERS BETWEEN THE YEARS 1913 AND 1917

BY

CARL LUMHOLTZ

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WITH ILLUSTRATIONS
FROM PHOTOGRAPHS BY THE AUTHOR
AND WITH MAP

VOLUME I

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We may safely affirm that the better specimens of savages are much superior to the lower examples of civilized peoples.

Alfred Russel Wallace.

380038

PREFACE

EVER since my camping life with the aborigines of Queensland, many years ago, it has been my desire to explore New Guinea, the promised land of all who are fond of nature and ambitious to discover fresh secrets. In furtherance of this purpose their Majesties, the King and Queen of Norway, the Norwegian Geographical Society, the Royal Geographical Society of London, and Koninklijk Nederlandsch Aardrijkskundig Genootschap, generously assisted me with grants, thus facilitating my efforts to raise the necessary funds. Subscriptions were received in Norway, also from American and English friends, and after purchasing the principal part of my outfit in London, I departed for New York in the autumn of 1913, en route for the Dutch Indies. In 1914, having first paid a visit to the Bulungan, in northeast Borneo, in order to engage the necessary Dayaks, I was preparing to start for Dutch New Guinea when the war broke out.

Under these changed conditions his Excellency, tne Governor-General, A. W. F. Idenburg, regretted his inability to give me a military escort and other assistance needed for carrying out my plan, and advised me to await a more favorable opportunity. During this interval, having meanwhile visited India, I decided to

make an expedition through Central Borneo, large tracts of which are unexplored and unknown to the outside world. My project was later extended to include other regions of Dutch Borneo, and the greater part of two years was spent in making researches among its very interesting natives. In these undertakings I received the valuable assistance of their Excellencies, the governor-general and the commanding general, as well as the higher officials of the Dutch Government, to all of whom I wish to express my heartfelt thanks.

Through the courtesy of the well-known Topografische Inrichting, in Batavia, a competent surveyor, whose work will later be published, was attached to my expeditions. He did not accompany me on my first visit to the Bulungan, nor on the second occasion, when I went to the lake of Sembulo, where the country is well known. In the map included in this book I have indicated the locations of the different tribes in Dutch Borneo, based on information gathered from official and private sources and on my own observations.

I usually had a taxidermist, first a trained Sarawak Dayak, later a Javanese, to collect mammals and birds. Fishes and reptiles were also preserved in alcohol.

Specimens of ethnological interest were collected from the different tribes visited; the collection from the Penihings I believe is complete. Measurements of 227 individuals were taken and as soon as practicable will be worked out by Doctor K. S. Schreiner, professor at the University of Christiania. Vocabularies were collected from most of the tribes. In spite of adverse conditions,

due to climate and the limitations under which I travelled, a satisfactory collection of photographic plates and films was brought back. With few exceptions, these photographs were taken by myself. For the pictures facing page 26 I am indebted to Doctor J. C. Koningsberger, President of the Volksraad, Buitenzorg, Java. Those facing pages 16 and 17 were taken by Mr. J. F. Labohm. The lower picture facing page 286 was taken by Mr. A. M. Erskine.

My observations on the tribes are recorded in conformity with my itinerary, and include the Kayans, Kenyahs, Murungs, Penyahbongs, Saputans, the nomadic Punans and Bukits, Penihings, Oma-Sulings, Long-Glats, Katingans, Duhoi (Ot-Danums), and the Tamoans. On one or two occasions when gathering intelligence from natives I was very fortunate in my informants—an advantage which will be appreciated by any one who has undertaken a similar errand and has enjoyed the keen satisfaction experienced when drawing the veil from primitive thought which lies so near and yet so far away.

Circumstances naturally prevented me from making a thorough study of any tribe, but I indulge the hope that the material here presented may prove in some degree acceptable to the specialist as well as to the general reader. Matter that was thought to be of purely anthropological interest is presented in a special supplement. Above all, I have abstained from generalities, to which one might be tempted on account of the many similarities encountered in the tribes that were visited. With-

out the light of experience it is impossible to imagine how much of interest and delight there is in store for the student of man's primitive condition. However, as the captain of Long Iram said to me in Long Pahangei, "One must have plenty of time to travel in Borneo." I have pleasure in recording here the judicious manner in which the Dutch authorities deal with the natives.

On a future occasion I shall hope to be able to publish a detailed report on several of the novel features of my Bornean collections, especially as regards decorative art, the protective wooden carvings called kapatongs, the flying boat, etc.

The first collections sent to Norway ran the risks incident to war. Most of them were rescued from the storehouses at Antwerp after the German occupation, through the exertions of the Norwegian Foreign Office, though a smaller part, chiefly zoölogical, appears to have been lost in Genoa. Count Nils Gyldenstolpe, of the Natural History Museum, Vetenskapsakademien in Stockholm, who is determining the mammals collected, informs me that so far a new species of flying maki and two new subspecies of flying squirrels have been described.

To further my enterprise, liberal gifts of supplies were received from various firms in Christiania: preserved milk from Nestle & Anglo-Swiss Condensed Milk Co., tobacco from Tiedemann's Fabrik, alcohol for preserving specimens from Löitens Braenderi, cacao from Freia Chokolade Fabrik. A medical outfit was presented by Mr. E. Sissener, Apotheket "Kronen," Christiania, and

Messrs. Burrows, Wellcome & Co., of London, placed at my disposal three of their excellent medicinal travelling-cases.

I want to express my appreciation of many services rendered by the Nederlandsche Handel-Maatschappij and its branches, especially the Factorij in Batavia. I am under similar obligations to the Koninklijke Paketvaart-Maatschappij, and my thanks are also due to De Scheepsagentuur for courtesies received. Miss Ethel Newcomb, of New York, has kindly transcribed the two songs rendered.

Finally I desire to make grateful acknowledgment of valuable assistance rendered by Doctor J. C. Koningsberger, and by Doctor W. van Bemmelen, director of Koninklijk Magnetisch en Meteorologisch Observatorium, Weltevreden, Batavia.

Although force of circumstances altered the scope and to some extent the character of this expedition, nevertheless my Bornean experiences afforded great satisfaction. Moreover, my sojourn in the equatorial regions of the East has imbued me with an even stronger desire to carry out my original purpose, which I hope to accomplish in the near future.

CARL LUMHOLTZ

NEW YORK, April, 1920.

CONTENTS

VOLUME I

CHAPTER I

PAGE

DEPARTURE FROM NEW YORK—A RACE WITH THE IMPERIAL LIMITED—IMPRESSIONS OF JAPAN—SINGAPORE—ARRIVAL AT BATAVIA, JAVA—BUITENZORG—BORO BUDUR, THE WONDROUS BUDDHIST MONUMENT 3

CHAPTER II

BORNEO—CLIMATIC AND BIOLOGICAL CONDITIONS—NATURAL RESOURCES—POPULATION—HISTORY—GOVERNMENT OF THE NATIVES—RACIAL PROBLEMS 14

CHAPTER III

BANDJERMASIN, THE PRINCIPAL TOWN IN DUTCH BORNEO—NORTHWARD ALONG THE EAST COAST—BALIK PAPAN, AN OIL PRODUCING CENTRE—SAMARINDA—TANDJONG SELOR—THE SULTAN—UP THE KAYAN RIVER 24

CHAPTER IV

AN EXPEDITION INTO THE JUNGLE—FIRST IMPRESSIONS—RAPID CHANGE IN THE DENSENESS OF VEGETATION—ANIMAL LIFE—A STUBBORN FIGHT 34

CHAPTER V

MEETING PUNANS, THE SHY JUNGLE PEOPLE—DOWN THE RIVER AGAIN—MY ENTHUSIASTIC BOATMEN—MALAYS VERSUS DAYAKS 44

CHAPTER VI

RESUMPTION OF MY JOURNEY UP THE KAYAN RIVER—LONG PANGIAN—BERI-BERI—HINTS ON PROPER PROVISIONS—KENYAHS FROM CENTRAL BORNEO—EFFECT OF A SPIDER'S BITE 53

CHAPTER VII

PAGE

ON THE ISAU RIVER—A KENYAH CHILD'S FUNERAL—A GREAT FISHING EXPEDITION—CATCHING FISH BY POISONING THE RIVER—TAKING OMENS—ENTERTAINING SCENES 63

CHAPTER VIII

THE JOURNEY CONTINUED UP THE KAYAN RIVER—FIRST EXPERIENCE OF KIHAMS, OR RAPIDS—WITH KENYAH BOATMEN—ADVANTAGE OF NATIVE COOKING—LONG PELABAN—THE ATTRACTIVE KENYAHS—SOCIAL STRATA—CUSTOMS AND HABITS—VALUABLE BEADS 70

CHAPTER IX

HYDROPHOBIA—FUNERAL CEREMONIES—AT A PADDI HARVEST—ANOTHER TUBA-FISHING EXPEDITION—THE CHARM OF PRIMITIVE MAN—INTERESTING CEREMONIES—ON HEAD-HUNTING GROUND 78

CHAPTER X

IN FOG AND DARKNESS—A RAID BY ANTS—DEPARTURE FROM LONG PELABAN—AN EXCITING PASSAGE—RETURN TO TANDJONG SELOR 89

CHAPTER XI

DEPARTURE FOR BANDJERMASIN—A PLEASANT STEAMSHIP LINE—TWO HEAD-HUNTERS—AN EXPEDITION TO LAKE SEMBULO—SAMPIT—THE ORANG-UTAN—STORMY WEATHER—A DISAGREEABLE RECEPTION 94

CHAPTER XII

THE WAR CHANGES MY PLANS—CHOLERA—UP THE GREAT BARITO RIVER—PURUK TJAHU—DECIDE TO STAY AMONG THE MURUNGS—A DANCING FEAST 107

CHAPTER XIII

DAYAK CURE OF DISEASE—EVIL SPIRITS AND GOOD—ANIMISM—BLIANS, THE PRIEST-DOCTORS—THE FEAST OF RUBBER-GATHERERS—WEDDINGS—IN PRIMITIVE SURROUNDINGS . . 119

CHAPTER XIV

PAGE

THE SCALY ANT-EATER—THE PORCUPINE—THE BLOW-PIPE—AN UNUSUAL ADVENTURE WITH A SNAKE—HABITS AND CUSTOMS OF THE MURUNGS—AN UNPLEASANT AFFAIR 131

CHAPTER XV

FINAL START FOR CENTRAL BORNEO—CHRISTMAS TIME—EXTENT OF MALAY INFLUENCE—THE FLOWERS OF EQUATORIAL REGIONS—AT AN OT-DANUM KAMPONG—THE PICTURESQUE KIHAMS, OR RAPIDS—FORMIDABLE OBSTACLES TO TRAVEL—MALAYS ON STRIKE 147

CHAPTER XVI

ARRIVAL AT BAHANDANG—ON THE EQUATOR—A STARTLING ROBBERY—OUR MOST LABORIOUS JOURNEY—HORNBILLS—THE SNAKE AND THE INTREPID PENYAHBONG—ARRIVAL AT TAMALOË 160

CHAPTER XVII

THE PENYAHBONGS, MEN OF THE WOODS—RHINOCEROS HUNTERS—CHARACTERISTICS OF THE PENYAHBONGS—EASY HOUSEKEEPING—DAILY LIFE—WOMAN'S LOT 174

CHAPTER XVIII

A STRANGE MAMMAL—ANIMAL LIFE IN CENTRAL BORNEO—A SUPERB AND SILENT REALM—VISIT TO A SALT WATER EXUDATION—PASSING THE DIVIDING RIDGE—A MOUSE-DEER CHASE—ON THE KASAO RIVER 186

CHAPTER XIX

THE SAPUTANS—HOW THE EARS OF THE CHIEF WERE PIERCED—AN UNEXPECTED ATTACK OF FILARIASIS—DEPARTURE FROM THE SAPUTANS—DOWN THE KASAO RIVER—"TOBOGGANING" THE KIHAMS 197

CHAPTER XX

ARRIVAL ON THE MAHAKAM RIVER—AMONG THE PENIHINGS—LONG KAI, A PLEASANT PLACE—A BLIAN'S SHIELD—PUNANS AND BUKATS, SIMPLE-MINDED NOMADS—EXTREME PENALTY FOR UNFAITHFULNESS—LONG TJEHAN 210

CHAPTER XXI

PAGE

AN EXCURSION DOWN THE RIVER—LONG PAHANGEI—THE OMA-SULINGS—THE GREAT TRIENNIAL FESTIVAL—HOSPITABLE NATIVES—INCIDENTS IN PHOTOGRAPHY 220

CHAPTER XXII

DAYAK DOGS—A FUNERAL ON THE MAHAKAM—OUR RETURN JOURNEY—AGAIN AT LONG TJEHAN—IN SEARCH OF A UNIQUE ORCHID—A BURIAL CAVE 234

ILLUSTRATIONS

Carl Lumholtz in the Bulungan, Dutch Borneo, May, 1914 . *Frontispiece*

FACING PAGE

In the jungle of Southern Borneo, near the Sampit River 16

The Giant Taro (*Alocasia Macrorhiza*) 17

The Orang-Utan. A more than half-grown specimen 26

The Long-Nosed Monkey (*Nasalis Larvatus*), peculiar to Borneo . . 26

The Sultan of Bulungan 27

Chonggat, the author's Dayak collector of animals and birds . . . 27

Approaching Kaburau, on the Kayan River 36

Banglan, a Kayan, and his family. Kaburau 37

Ladders, below Long Pangian, on the Kayan River 37

Young Kayan, from Kaburau 38

Kayan, from Kaburau. Shows a Chinese manner of hair-dressing . 38

Kayan from Kaburau. Showing the distended ear lobes 38

Kayan child, Kaburau 39

Kayan mother and infant. Near Long Pangian 39

Punans, the shy nomads of the jungle 46

Punans near my camp 47

Punan using the sumpitan or blowpipe 50

Kayan climbing a tree 51

Kayan at the author's camp, blowing a native wind instrument . . 54

The King Cobra (*Naia Bungarus*) 55

Young Orang-Utans 55

Kayan, from Kaburau. Front, side, and back views 60

Kayan, in mourning dress, Kaburau 60

Kenyah, from Long Pelaban. Front, side, and back views . . . 61

Tuba fishing on the Isau River 66

Tuba fishing. Taking the augury by fire-making. Isau River . . 67

Tuba fishing. Effects of the poison. Pipa River 67

Kenyahs starting in the morning for distant Apo Kayan. Long Pangian, Kayan River 72

FACING PAGE

A funeral house. Near Long Pelaban, Kayan River 73
Long Pelaban, a Kenyah kampong, on the Kayan River 74
The gallery of a communal house, Long Pelaban, Kayan River . . 75
Kenyah father and child. Long Pelaban, Kayan River 80
Kenyah woman, with large basket used for carrying rice. Long Pelaban, Kayan River 81
A Kenyah's sweetheart removing his eyebrows and eyelashes. Long Pelaban, Kayan River 82
Wrestling. Long Pelaban, Kayan River 82
Kenyah girl, in a woman's usual attire. Long Pelaban, Kayan River 83
Kenyah mother and child, on their daily trips to the Long Pelaban, Kayan River 84
Tuba fishing, at the Pipa River 85
Kenyah ready for a trip to the ladang (fields). Long Pelaban, Kayan River 90
Kenyah in full war attire. Long Pelaban, Kayan River 91
Sacrificing the pig at the festival. Tumbang Marowei 116
Murung women squatting in order to observe the author. Tumbang Marowei 116
Murung man and wife. Tumbang Marowei 117
The beating of gongs furnishes the music at festivals. Tumbang Marowei 124
The Feast of the Rubber Gatherers. Tumbang Marowei 124
Blians, or priest-doctors, at Tumbang Marowei 125
Murung women smoking cigarettes and preparing them from native tobacco and leaves of trees. Tumbang Marowei 136
The Scaly Ant-Eater (*Manis*). Tumbang Marowei 136
Telok Djulo, an Ot-Danum kampong, on the Barito River 137
Ot-Danum, wearing gold breastplates. Telok Djulo 152
Passing the Kiham Mudang, on the Upper Barito River 153
Rough travel by boat on the Upper Barito River 162
Passing the boats up the rapids of the Upper Barito River 163
Part of my provisions, at Bahandang, Busang River 166
Djobing, our efficient Malay 166
Part of the expedition ascending the Busang River 167

FACING PAGE

Tamaloē, a lately formed Penyahbong kampong 172
Pisha, the good Penyahbong chief. Tamaloē 173
Penyahbong rhino hunters. Tamaloē 178
Penyahbong women. Tamaloē 179
Back view of the Penyahbong women, showing their head-dress . . 179
Penyahbong, front, side, and back view. Tamaloē 182
The Penyahbong war dance. Tamaloē 183
Saputan, on his way to the ladang (fields) and for the hunt of Babi. Data Láong 194
Saputans, front and side views. Data Láong 195
Saputan, the kapala of Data Láong 202
Saputans showing their war prowess 202
Saputans poling. Data Láong 203
Piercing the ears of the Saputan chief in order to insert a tiger cat's corner teeth. Data Láong 203
Mahakam River, westward view, from the author's tent, at Long Kai 212
Penihings, the kapala of Long Kai and his children 213
Bukat, at Long Kai, front, side, and back views 216
Bukat women, at Long Kai, front and side views 217
The Mélah ceremony for imparting health and strength. Long Pahangei 222
Oma-Sulings. Long Pahangei 222
The Dángei hut, a temporary place of worship 223
The Rajá Besar, or great chief, and his wife. Long Pahangei . . . 226
Large wooden drum. Long Pahangei 226
Lidju, a Long-Glat noble, and his wife, the sister of the Rajá Besar. Long Pahangei 227
Cooking rice in bamboo receptacles. Long Pahangei 232
Lung Karang, a limestone hill, near Long Tjehan, on the Mahakam River 233
Penihing burial cave, near the Tjehan River 240
Penihing women carrying water. Long Kai 241
Penihings, from Long Kai 241

CHAPTER I

DEPARTURE FROM NEW YORK—A RACE WITH THE IMPERIAL LIMITED—IMPRESSIONS OF JAPAN—SINGAPORE—ARRIVAL AT BATAVIA, JAVA—BUITENZORG—BORO BUDUR, THE WONDROUS BUDDHIST MONUMENT

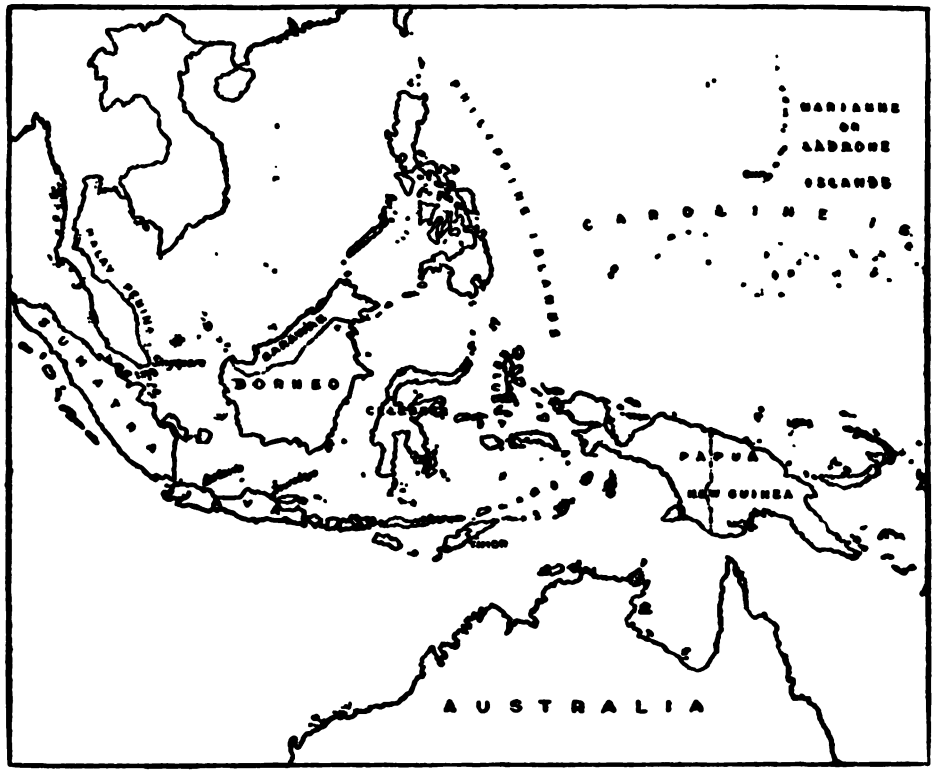
HAVING concluded important business matters during a brief stay in New York, I decided to go to Canada to take the express train for Vancouver. It was the last train which made connection with the Canadian Pacific steamer for Hong-Kong, and if I could make it I should save three weeks. With the assurance that I should have a couple of hours latitude, I started in the morning for Montreal. There was no doubt that I should make it unless something unusual delayed the north-bound train, and that is exactly what occurred. The steam power of the brake got out of order, necessitating a stop for repairs, and considerable time was lost. Darkness came on and I began to feel anxious about the prospect of gaining my object.

The conductor and his assistant, in the knowledge that I had a through ticket to Hong-Kong, did everything in their power to aid me. Wire messages were sent to have the Imperial Limited Express wait for "a man travelling first-class"; to the custom-house, and also for a cab and four "red caps" to meet me on arrival.

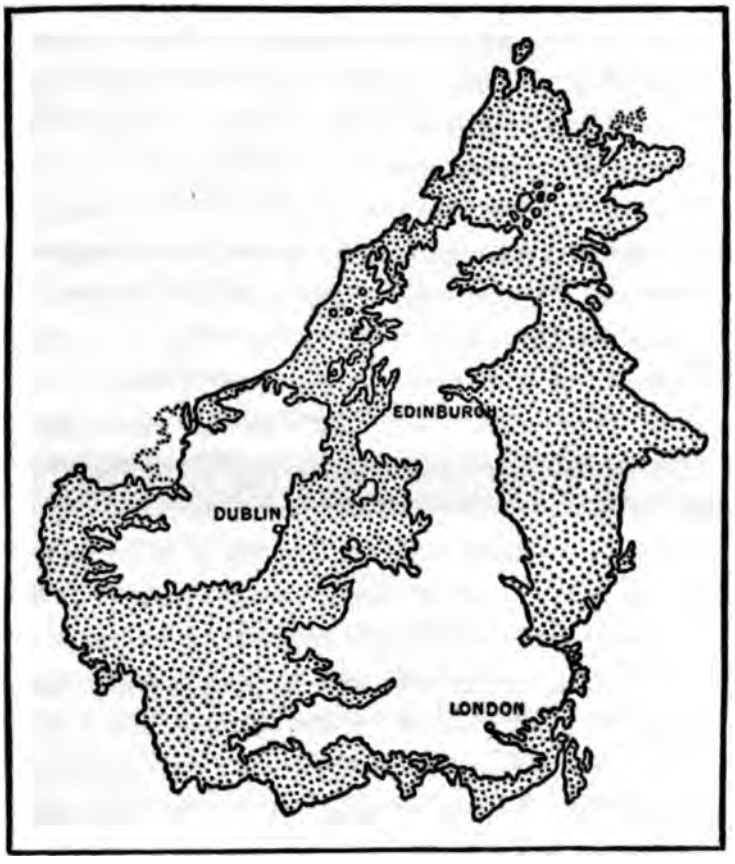
The assistant conductor told everybody of the plight of the passenger with the long journey before him, the engineer was prevailed upon to increase his speed; and the passengers began to exhibit interest. A tall Canadian came to me and expressed his belief that I would catch that train, and even if it should be gone there was another a little later by which it might be overtaken. "I shall assist you," he added.

As we approached Montreal there were still twelve minutes left. The lights of the city were visible near by, and one of my fellow passengers was in the act of assuring me that my chances were good, when our train suddenly stopped—on account of the bridge being open to permit a ship to pass. Ten minutes lost! I had decided, if necessary, to sacrifice two boxes of honey which I had bought at the last moment, honey and water being my usual drink when on expeditions. The total weight was ninety kilograms, but they were neatly packed in paper and had been allowed to stand at one side of the entrance to the Pullman car. They were an important adjunct of my outfit, but perhaps after all it would be necessary for us to part.

Immediately upon the opening of the doors the four porters presented themselves with the encouraging information that they understood the Imperial Limited was waiting. My luggage, including the honey, was hurried on to a large truck, my Canadian friend throwing his on too, and speeding the boys to a trot, we ran as fast as we could to the baggage-room of the custom-house, where the official in charge caused us only a short delay.



THE DUTCH INDIES AND SURROUNDING COUNTRIES



BORNEO (DOTTED SURFACE) AS COMPARED IN SIZE WITH THE BRITISH ISLES (WHITE)

(After Wallace)

As the packages were being loaded into three cabs a man stepped forward and accosted me: "We have got you now! I am a reporter for *The Star*, and would like to know who the man is that keeps the Imperial Limited waiting!" The moment did not seem favourable for an interview, but I invited him to enter my cab and the two or three minutes required to drive to the station afforded opportunity for an explanation:

I was on my way to New Guinea. This was a Norwegian undertaking which had the support of three geographical societies. It was hoped that a geologist and a botanist from Norway would meet me next year in Batavia to take part in this expedition to one of the least-known regions on the globe. "What do you expect to find?" he asked just as we halted.

The porters outside said the train was gone, having waited fifteen minutes. The newspaper man immediately joined forces with my Canadian friend, and they were equally determined that by some means I should overtake that train. First we went to look for the station-master, hoping through him to obtain permission to have the train stopped en route. When found after a few minutes' search, he tried in vain to get one of the officials of the Canadian Pacific Company on the telephone. My two friends stood near to keep his interest active, but he did not seem to succeed. The station was quiet and looked abandoned. It was after ten o'clock and at that time of the evening the hope of reaching an official at his residence seemed forlorn.

Meantime I had my luggage ready to throw aboard

the 10.30 express, which was my one chance in case the Imperial Limited could be halted. The three men were persistent but finally, two or three minutes before the departure of the express, they came to me hurriedly and said: "You had better go by this train to North Bay, where you will arrive at 9.30 to-morrow morning. There you will catch the train, or if not you can return here." There appeared to me small prospect that the three men would succeed in obtaining the desired permission, but I had no time for reflection. The train was ready to start and my luggage was hastily thrown to the platform of the car. I bade the gentlemen a hurried good-bye, thanking them for all the trouble they had taken. "You are going to catch that train!" the reporter exclaimed in a firm and encouraging tone. "But what do you expect to find in New Guinea?" he suddenly inquired as I jumped on to the slowly moving train.

Reflecting that in the worst case I would be back in Montreal in one and a half days, I fell asleep. At 6.30 in the morning I was awakened by the voice of the porter saying, "the train is waiting for you, sir," as he rolled up the curtain. It really was the Imperial Express! The big red cars stood there quietly in the sunshine of the early morning. In a few minutes I was dressed, and never with greater satisfaction have I paid a porter his fee.

The station was Chalk River, and the train had waited forty minutes. What a comfortable feeling to know that all my belongings were safely on board! I had not only saved time and money but an interesting trip across the continent lay before me. Having washed and put on

clean garments, I had my breakfast while passing through an enchanting hilly country, amid smiling white birches, and the maples in the autumn glory of their foliage, with more intensely red colouring than can be seen outside North America. The oatmeal porridge seemed unusually well prepared: the waiter intimated that the cook was a Parisian. However that might have been, he was probably of French descent.

Four days later we arrived at Vancouver, where I wrote to the three gentlemen of Montreal, my appreciation of services rendered, addressing them care of *The Star*. Their names I did not know, but it was not the first time that I had been reminded of Darwin's assurance, in the account of his travels round the world, as to "how many truly kind-hearted people there are, with whom he (the traveller) never before had, nor ever again will have any further communication, who yet are ready to offer him the most disinterested assistance."

Early in the morning on October 19 we saw the first Japanese fishing-boats. The sea was green and in the atmosphere a kind of haze, which almost seems peculiar to Japan, imparted an artistic tone to everything. In splendid weather, almost calm, we sailed along the coast of Nippon. As we entered the bay of Yokohama the sun was setting over a landscape that realised one's preconceived ideas of the beauty of the country. On one side, low ridges with rows of picturesque pine-trees just as you know them from Japanese prints, while in the background to the west, above the clouds rose the top of Fuji, nearly 4,000 metres above sea-level. We steamed

up in absolute calm, while the long twilight was still further prolonged by a brilliant afterglow.

Taking advantage of the permit to leave the steamer and rejoin it in Kobe, and having received useful advice from Cook's representative who came on board, I immediately went ashore. On calling a rickshaw I was much surprised to find that the man spoke English quite well. He trotted continuously twenty minutes, to the railway station, where in good time I caught the train for the West, and at daybreak I was ready to observe the beautiful country through which we passed. I had made no provision for breakfast, but one of my fellow travellers, who came from Tokio, had the courtesy to offer me two snipe with bacon, which tasted uncommonly well.

In the morning I arrived at Kioto, the city of many temples, and found the Kioto hotel satisfactory. I shall not attempt to describe in detail the fascination of the two days I spent here, where one still may see something of old Japan. In Kobe, Nagasaki, and other cities exposed to the stream of travellers, Western influence is evident everywhere, and the inhabitants are less attractive on that account. After all one has heard and read about the charm of the country, one is inclined to think that the reports are exaggerated, but as far as my brief experience in Nippon goes, it is the most beautiful and interesting country that I have visited, and I hope in the future to know it better.

The deepest impression made upon me by the Japanese was that they are all so active, healthy, and strong; always good-tempered, their manners are exquisite, even the

plain people bowing to each other, and many young people saluted me on the street. The infinite variety in their shops is noticeable. To see the coaling of the steamers in Japanese harbours, which is done by baskets handed from one to another, makes an impression on the traveller. Hundreds of women and men take part in the occupation, and they come neatly dressed to this dirty work, women with clean white kerchiefs on their heads. The low ditches in their rice-fields are like engineering work, and their bundles of wood are nicely tied.

Of the many temples I visited in Kioto the first was Chion-in, which lies impressively on an elevation at the foot of a charming wooded hill. The tiny lake at the back of the quaint structure, the peaceful atmosphere, the sunshine, and singing birds—the *tout ensemble* was inexpressibly beautiful. On my way back to the hotel I passed a Christian church and felt ashamed of the wretched architecture, in the usual conventional style, made of stone with white-plastered walls, hard and unattractive. Never have I been among a people so close to nature, strikingly intelligent, friendly, and the most æsthetic of all nations on the globe.

In continuing the journey opportunity is afforded to see Shanghai, Hong-Kong, and at last Singapore, the important port of the Malay Peninsula. Singapore, with its green lawns and trees, has a pleasant, though humid climate, cooler than that of Batavia, and quite comfortable although so near the equator. It is satisfying to know one place where the native races have a good time in competition with the whites, not only the Chinese, who

have reached power and influence here, but also the Malays, natives of India, Arabs, etc. The Chinese rickshaw men here are of superb physique, and the excellence of the service renders this the most agreeable method of getting about. Moreover, it is a pleasure to watch their athletic movements and long easy stride, as if they were half flying. Some of them pass the carriages. They are jolly, like big children, and are natural teetotalers, but they sometimes fight about money among themselves.

After securing a Chinese photographer and a trained native collector of zoological specimens, I embarked in the excellent Dutch steamer *Rumphius* for Batavia where I arrived on the 10th of November. The first thing to be done was to ask an audience of the Governor-General of Netherlands India, who usually stays at Buitenzorg, the site of the world-famous botanical gardens. It is an hour's trip by express from Batavia, and although only 265 metres higher, has a much pleasanter climate. The palace, which is within the botanical gardens, has an unusually attractive situation, and the interior is light, cool, and stately. His excellency, A. W. F. Idenburg, most courteously gave the necessary orders for the furtherance of my proposed expedition to New Guinea, and as it was necessary for me to go first to Dutch Borneo, to secure a Dayak crew, he provided me with an introduction to the Resident of the South and Eastern Division.

During the few days I stayed in Buitenzorg, the botanical gardens were a source of ever new delight. It was in the latter half of November and thus well into the rainy season. Usually showers came every afternoon, but the

mornings, even up to eleven o'clock, always appeared like spring-time, only in a more magnificent edition than that of temperate zones. In the effulgence of light and the fresh coolness of the first hours of the day, plant and animal life seemed jubilant. After the calm and heat of midday, violent thunder-storms of short duration may occur, but the evenings are generally beautiful, although the prevailing inclination is to retire early. In the tropics one realises more readily than elsewhere how a single day contains all the verities and realities of one's whole life: spring, summer, and autumn every day, as in a year or in a lifetime. Australians and Americans who visit Java every year make a great mistake in selecting the dry season, April to July, for their travels. To be sure, one is not then troubled by rain, but on the other hand the heat is greater, the country becomes dry, and including the botanical gardens, loses much of its attraction.

I decided to go by rail to Soerabaia, the point of steamboat connection with Borneo; this would give me opportunity to see Java besides saving some time. After twelve hours' travel by express the train stops for the night at Djokjakarta where there is a good hotel. We now find ourselves in a region which formerly was the main seat of Buddhism in Java. The world-famous monument, Boro Budur, is in the neighbourhood to the north in the district of Kedu, and by motor-car a visit may easily be made in one day, but for those who can spend more time on this interesting excursion there is satisfactory accommodation in a small hotel near by. The government has of late years successfully restored this

magnificent ancient structure which at its base forms a square, with the length of the side 150 metres, and rises to a height of more than 30 metres. At first sight it does not seem as large as expected, but on entering the first gallery one is struck by the monumental magnitude and unique beauty of the edifice.

Built upon a small hill from blocks of trachyte, it consists of twelve terraces rising one above another, and connected by staircases. The uppermost terrace, fifteen metres in diameter, has a dome. Each gallery is surrounded by a wall adorned with niches in handsome settings, each containing a life-sized Buddha, with legs crossed, soles turned downward. There are 432 such niches, and from this great number of statues of the famous religious founder the place probably derived its name, Boro Budur equals Bara Buddha (Buddhas without number).

There are no less than 1,600 bas reliefs, handsome carvings in hard stone mostly representing scenes from the life of Buddha and "which must," says Wallace, "occupy an extent of nearly three miles in length. The amount of human labour and skill expended on the Great Pyramids of Egypt sink into insignificance when compared with that required to complete this sculptured hill-temple in the interior of Java." It dates from the eighth or ninth century after Christ, and in reality is not a temple, but a so-called dagoba, dedicated to the keeping of some Buddhist sacred relic which was deposited in the dome, its principal part. In the beautiful light of afternoon the walk through the galleries was especially

impressive. From that vantage point there is presented a fine, extensive view of a peaceful landscape, and at the time of my visit an actively smoking volcano in the far distance added a picturesque feature. In the vicinity is another noble Hindu structure, the so-called temple of Mendut, inside of which is found a large and singular Buddha sitting on a chair, legs hanging down. The figure is nude and the expression on its features is very mild.

The journey from Djokjakarta to Soerabaia consumes about half a day and the trip is pleasanter than that of the previous day, when the rolling of the fast express on a narrow-gauge track was rather trying, while at dinner-time the soup and water were thrown about in an annoying manner. I have no doubt that this defect will soon be remedied, for Java is still what a very distinguished English visitor said sixty years ago: "the very garden of the East and perhaps upon the whole the richest, best cultivated, and best governed tropical island in the world." Soerabaia is the great shipping port for sugar, tobacco, etc., and a more important commercial centre than Batavia. The day after my arrival I started for Borneo where I intended to proceed to the Kayan or Bulungan River in the Northeast. It was my purpose to take advantage of the occasion to acquaint myself with that district and its natives which would extend my travels by a few months.

CHAPTER II

BORNEO—CLIMATIC AND BIOLOGICAL CONDITIONS—NATURAL RESOURCES—POPULATION—HISTORY—GOVERNMENT OF THE NATIVES—RACIAL PROBLEMS

LEAVING Greenland out of consideration, Borneo is the second largest island on the globe, the greater part of it, southern and eastern, belonging to Holland. In a recent geological period this island as well as Java and Sumatra formed part of Asia. A glance at the map shows that Borneo is drained by rivers which originate in the central region near each other, the greater by far being in Dutch territory, some of them navigable to large steam launches for 500 or 600 kilometres. The principal chain of mountains runs, roughly speaking, from northeast to southwest, the average height being perhaps 1,000–1,500 metres, with higher peaks now and then. There are also ranges from east and west. The remainder is irregular hilly country, with low swampy coasts. The highest mountain is Kinabalu, in the north, about 4,500 metres above the sea and composed of "porphyritic granite and igneous rocks." There are no active volcanoes. The whole island is covered with forest vegetation from the coasts to the tops of the hills and ranges.

The climate is humid and warm and remarkably even, the thermometer in the inland rarely reaching above 85° F. in the shade. Rain is copious most of the year; at night it sometimes rains continuously; but a day of

uninterrupted downpour did not occur during my two years of travel. It comes in showers, usually lasting an hour or two, when it clears as suddenly as it began, and within half an hour all is dry again. In the interior, on account of the vast jungles, except in case of thunderstorms, which are rare, there is no wind, but on the coasts one may encounter storms in the time of both the northeast and the southwest monsoons. Though Borneo and the central mountains of New Guinea have the greatest rainfall in the Malay Archipelago, there is a distinct dry season, which is mostly felt during April, May, and June, but is less noticeable in the central parts. As regards the distribution of rain and dry weather, some difference was experienced as between the two years, and a planter of several years' experience in the south told me that one year is not like another. In spite of the general supposition to the contrary the climate of Borneo is quite pleasant, and probably less unhealthful than most equatorial regions, particularly in the central part where malaria is rare and prickly heat does not occur.

Borneo has very many useful trees, notably hard woods. Rubber is still a source of income to the Malays and Dayaks, and the rattan and bamboo, on which the very existence of the natives depends, grow everywhere. The sago-palm and a great number of valuable wild fruits are found, such as the famous durian, mangosteen, lansat, rambutan, and others. The climate seems to be specially suited to fruit, the pineapple and pomelo reaching their highest perfection here. The coconut-palm thrives on the island. Borneo is famous for its orchids and most of

the species of pitcher-plants (*nepenthes*) are found here, the largest of which will hold two "quarts" of water.

The elephant, rhinoceros, tapir, wild cattle, and many other kinds of smaller animals of Asia are found in Borneo. No Indian tigers are in the country, though many varieties of the cat family are there, among them the beautiful large *felis nebulosa*. Wild pigs of many species roam the jungle in abundance. Several kinds of mammals are peculiar to the island, among which may be mentioned the long-nosed monkey (*nasalis larvatus*). There are over 550 species of birds, but the individuals of the species are not numerous; the pheasant family is especially gorgeous in form and colour. The rivers and the surrounding sea swarm with fish of many kinds, furnishing an abundance of food, although generally not very palatable. The djelavat, in flavour not unlike salmon, and the salap, both of which I met in the upper courses of the rivers Samba, Barito, and Mahakam, are notable exceptions.

The mineral resources of Borneo are very considerable; coal, gold, iron, diamonds, tin, and antimony are among the most valuable. Anthracite coal is not found in the country, that which is in evidence being from the tertiary period. Gold is everywhere, but thus far is not found in sufficient quantity to pay. Formerly the natives of the upper Kotawaringin district had to pay the Sultan gold as a tax. A mining engineer told me that in Martapura, the principal diamond-field, one may find gold, platinum, and diamonds while washing one pan.

The total population of the island is probably 3,000,-

IN THE JUNGLE OF SOUTHERN BORNEO, NEAR THE SAMPIT RIVER

THE GIANT TARO (*ALOCASIA MACRORHIZA*)
Photographed in Southern Borneo

000. As regards the South and Eastern Division of Dutch Borneo—roughly half of the island—to which my travels were confined, the census returns of 1914 give in round figures a total of 906,000 people, of whom 800 are Europeans (470 men and 330 women), 86,000 Chinese, 817,000 Dayaks and Malays, and 2,650 Arabs and other aliens. Of these peoples no less than 600,000 live in a comparatively small area of the southeast, the districts of Oeloe Soengei and Bandjermasin. These are nearly all Malays, only 4,000 or 5,000 being Dayaks, who probably do not form the majority of the 217,000 that make up the remainder of the native population of the Division.

On account of the small white population and insufficient means of communication, which is nearly all by river, the natural resources of Dutch Borneo are still in the infancy of development. The petroleum industry has reached important proportions, but development of the mineral wealth has hardly begun. In 1917 a government commission, having the location of iron and gold especially in view, was sent to explore the mineral possibilities of the Schwaner Mountains. In the alluvial country along the rivers are vast future possibilities for rational agriculture, by clearing the jungle where at present the Malays and Dayaks pursue their primitive operations of planting rice in holes made with a pointed stick.

The early history of Borneo is obscure. Nothing in that regard can be learned from its present barbarous natives who have no written records, and few of whom have any conception of the island as a geographical unit.

Although the Chinese had early knowledge of, and dealings with, Borneo, there seems little doubt that the country was first colonised by Hindu Javanese from Modjopahit, the most important of the several kingdoms which Hindus began to found in the early centuries after Christ. Modjopahit enclosed the region round the present Soerabaia in East Java, and it was easy to reach Borneo from there, to-day distant only twenty-seven hours by steamer. These first settlers in Borneo professed Hinduism and to some extent Buddhism. They founded several small kingdoms, among them Bandjermasin, Pasir, and Kutei, also Brunei on the north coast. But another race came, the Malays, who with their roving disposition extended their influence in the coast countries and began to form states. Then Islamism appeared in the Orient and changed conditions. Arabs, sword in hand, converted Java, and as far as they could, destroyed temples, monuments, and statues. The Malays, too, became Mohammedans and the sway of Islam spread more or less over the whole Malay Archipelago. With the fall of Modjopahit in 1478 the last vestige of Hindu Javanese influence in Borneo disappeared.

The Malays established sultanates with the same kind of government that is habitual with Mohammedans, based on oppression of the natives by the levying of tribute with the complement of strife, intrigue, and non-progress. In the course of time the Malays have not only absorbed the Hindu Javanese, but also largely the Bugis, who had founded a state on the west coast, and in our time they are gradually pushing back the Dayaks and slowly but

surely absorbing them. The Chinese have also played a prominent part in the colonisation of Borneo, having early developed gold and diamond mines and established trade, and though at times they have been unruly, they are to-day an element much appreciated by the Dutch in the development of the country.

As regards the time when European influence appeared in Borneo, the small sultanate of Brunei in the north was the first to come in contact with Europeans. Pigafetta, with the survivors of Magellan's expedition, arrived here from the Moluccas in 1521, and was the first to give an account of it to the Western world. He calls it "Bornei," which later, with a slight change, became the name of the whole island. The ever-present Portuguese early established trade relations with the sultanate. Since the Napoleonic wars, when the East Indian colonies were returned to Holland, the Dutch have gradually extended their rule in Borneo to include two-thirds of the island. In the remainder the British have consolidated their interests, and in 1906, the European occupation of Borneo was completed. The distribution of territory has roughly been placed thus: Dutch Borneo, seventy per cent; Sarawak and Brunei, twenty per cent; British North Borneo, ten per cent.

To the world at large Borneo is probably best known through the romance surrounding the name of James Brooke, who became Raja of Sarawak, in 1841. His story has often been told, but a brief account may not be out of place. He had been to the Far East and its fascination, together with an impulse to benefit the na-

tives, drew him back again. After resigning his commission in the army of the British East India Company, he built his own yacht of 140 tons, practised his crew in the Mediterranean and then set sail for the Malay Archipelago. In his *Proposed Exploring Expedition to the Asiatic Archipelago*, 1838, are found these stirring words which strike a responsive chord in the heart of every true explorer:

"Imagination whispers to ambition that there are yet lands unknown which might be discovered. Tell me, would not a man's life be well spent—tell me, would it not be well sacrificed in an endeavour to explore these regions? When I think of dangers and death I think of them only because they would remove me from such a field for ambition, for energy, and for knowledge." *

Mr. Brooke arrived at Sarawak where he remained some time, surveying the coast and studying the people. In those days Malay pirates rendered the country dangerous to approach and several ships had been lost and their crews murdered. One of the chronic rebellions against the Sultan of Brunei was raging at the time, and Mr. Brooke was asked to suppress it, was made Raja, and defeated the rebels, cleared the river of pirates and established order.

Though Mohammedan laws were maintained in Sarawak, the worst abuses were purged out, as for instance, the death penalty for conjugal infidelity, and the sufficiency of a fine in extenuation of a murder. As for the Dayaks who formerly were cheated by Malay traders and robbed by Malay chiefs, they were permitted to enjoy absolute safety. Both Raja Brooke and his nephew, who

* *The Expedition to Borneo of H. M. S. "Dido" for the Suppression of Piracy*, by Captain H. Keppel, p. 374. Harper's, New York, 1846.

succeeded him in the same spirit, followed the policy of making use of the natives themselves in governing, and Sarawak to-day enjoys the distinction of being a country where the interests of the natives are guarded with greater care than those of "the minority of superior race." Resting on the good-will of the natives and their uplift, the government of the two white Rajas has been remarkably successful.

The Dutch, with their much larger possessions, in a similar way have invoked the co-operation of the native chiefs. Their government is also largely paternal, which is the form best suited to the circumstances. The Malay Sultans maintain power under Dutch control and receive their income from the government, which has abolished many abuses. As for the pagan tribes, they are treated with admirable justice.

Well administered by Europeans as Borneo undoubtedly is, the question may well arise as to whether the natives are not becoming sufficiently civilised to render purposeless expeditions to study them. To this may be answered that in a country so vast, where white men are comparatively few in number, the aborigines in the more remote part are still very little affected by outside influence. The geographical features are an important factor here. In the immense extent of forest vegetation which covers the land from the sea to the tops of the mountains, the rivers are the only highways, and in their upper courses, on account of rapids and waterfalls, travel is difficult and often dangerous. Although in the last quarter of a century much has been accomplished by ethnology, still for years to come Borneo, especially the

Dutch part of it, will remain a prolific field for research. The tribes are difficult to classify, and in Dutch Borneo undoubtedly additional groups are to be found. The Muruts in the north, who use irrigation in their rice culture and show physical differences from the others, are still little known. Many tribes in Dutch Borneo have never been studied. So recently as 1913 Mr. Harry C. Raven, an American zoological collector, in crossing the peninsula that springs forth on the east coast about 1° N.L., came across natives, of the Basap tribe, who had not before been in contact with whites. The problem of the Indonesians is far from solved, nor is it known who the original inhabitants of Borneo were, Negritos or others, and what rôle, if any, the ancestors of the Polynesians played remains to be discovered.

The generally accepted idea has been that the Malays inhabit the coasts and the Dayaks the interior. This is not strictly correct because the racial problems of the island are much more complicated. Doctor A. C. Haddon recognises five principal groups of people in Sarawak, Punan, Kenyah-Kayan, Iban or Sea Dayak, Malay, and the remaining tribes he comprehends under the non-committal name Klemantan. He distinguishes two main races, a dolichocephalic and a brachycephalic, terming the former Indonesian, the latter Proto-Malay.

Doctor A. W. Nieuwenhuis, who about the end of the last century made important researches in the upper parts of the Kapuas and Mahakam Rivers and at Apo Kayan, found the Ot-Danum, Bahau-Kenyah, and Punan to be three distinct groups of that region. Doctor Kohlbrugge and Doctor Haddon consider the Ot-Danums as Indone-

sians, to whom the former also consigns the Kayans and the Punans.* Doctors Hose and McDougall, who in their *Pagan Tribes of Borneo* have contributed much to the ethnology of the island, have convincingly shown that the Ibans (Sea Dayaks) are recent immigrants, probably of only two hundred years ago, from Sumatra, and are Proto-Malays. They hold the view that the Kayans have imparted to the Kenyahs and other tribes the "principal elements of the peculiar culture which they now have in common."

The Malays undoubtedly were the first to employ the word Dayak as a designation for the native tribes except the nomadic, and in this they have been followed by both the Dutch and the British. The word, which makes its appearance in the latter part of the eighteenth century, is derived from a Sarawak word, dayah, man, and is therefore, as Ling Roth says, a generic term for man. The tribes do not call themselves Dayaks, and to use the designation as an anthropological descriptive is an inadmissible generalisation. Nevertheless, in the general conception the word has come to mean all the natives of Borneo except the Malays and the nomadic peoples, in the same way as American Indian stands for the multitude of tribes distributed over a continent. In this sense, for the sake of convenience, I shall myself use the word, but to apply it indiscriminately to anthropological matters is as unsatisfactory as if one should describe a certain tribe in the new world merely as American Indian.

* Quoted from *Pagan Tribes in Borneo*, II, p. 316

CHAPTER III

BANDJERMASIN, THE PRINCIPAL TOWN IN DUTCH BORNEO—NORTHWARD ALONG THE EAST COAST—BALIK PAPAN, AN OIL PRODUCING CENTRE—SAMARINDA—TANDJONG SELOR—THE SULTAN—UP THE KAYAN RIVER

FIFTY miles from land the sea assumes a different aspect through the fresh water of the great Barito flowing on the surface. Its red hue is produced by particles of soil brought from the inland of Borneo. In the beginning of December I arrived at Bandjermasin, the principal town in Dutch Borneo, inhabited for the most part by Malays and Chinese. It is the seat of the Resident of the vast South and Eastern Division and has a garrison. The sea loudly announces its presence here, the tide overflowing much of the low ground, hence the Malay name, *bandjir* = overflow, *másin* = salt water. Large clumps of a peculiar water-plant float on the river in Bandjermasin in great numbers, passing downward with the current, upward with the tide, producing a singular, but pleasing sight. It is originally a native of America and has attractive light-blue flowers, but multiplies to such an extent that the growth finally may interfere with traffic. In India I saw a lagoon completely choked with it.

There is one hotel where the table is fair and the beds are clean, but blankets are considered unnecessary, and only sheets are provided. The climate was not as hot as I expected, nights and mornings being surprisingly cool.

Early in July of the following year the morning temperature was about 73° F. (23° C.). Malaria is rare here, but there are frequent indications of beri-beri.

Friends invited me to go on an excursion to a small island, Kambang, where there are a number of monkeys to whom Malays who desire children sacrifice food. On our arrival the animals came to meet us in a way that was almost uncanny, running like big rats in the tall grass on the muddy beach. Many remnants of sacrificial offerings were strewn about.

Two years later I was again in Bandjermasin, when an elderly American and his wife appeared upon the scene—tourists, by the way, being very unusual here. At the breakfast table they asked a young Dutchman the whereabouts of the church and museum, and he replied that he did not think there was either in the town. As a matter of fact there is a small wooden Dutch church hidden away in a back street. Moreover, in 1914 the Resident, who at that time was Mr. L. F. J. Rijckmans, had a house built, in Malay style of architecture, for the safekeeping of Bornean industrial and ethnological objects which had been on view at the exhibition at Samarang in Java, thus forming the nucleus of a museum which at some future time may be successfully developed. The Kahayan Dayaks, not far away to the north, make exquisite cigar-cases from rattan, while the Bugis weave attractive cotton goods, resembling silk, with an original and pleasing colour combination.

The Europeans have a lawn-tennis court where they usually play every afternoon. In Bandjermasin is the

headquarters of a German missionary society whose activities are confined mainly to the Kahayan River. They are Protestants and worked for a great number of years without making any noteworthy impression on the natives, but of late years they have been more successful. Catholics, who came later, have a station on the Mahakam River. The government wisely has separated Protestant and Catholic missionary activities, restricting the former to the southern part of the country, the latter to the northern.

There is no difficulty about getting up along the east coast northward as far as the Bulungan, which was my immediate aim. The Royal Dutch Packet Boat Company adheres to a schedule of regular fortnightly steamship connection. On the way a stop is made at Balik Papan, the great oil-producing centre, with its numerous and well-appointed tanks and modern equipment, reminding one of a thriving town in America. One of the doctors in this prosperous place told me that his two children of four and six years enjoyed excellent health. Dysentery was prevalent among the coolies, and occasionally cases of malaria occurred, but malaria is found even in Holland, he added.

As we sailed up the Kutei River in the early morning, approaching Samarinda, an attractive scene presented itself. Absolute calm and peace reigned, a slight morning mist rising here and there before us and giving a touch of charm to the vista of modest white houses that stretched along the beach in their tropical surroundings. Samarinda lies almost on the equator, but nights and mornings

THE ORANG-UTAN. A MORE THAN HALF-GROWN SPECIMEN

THE LONG-NOSED MONKEY (*NASALIS LARVATUS*), PECULIAR TO BORNEO

a house which had just been rented by two Japanese who were representatives of a lumber company, and had come to arrange for the export of hardwood from this part of Borneo.

Accompanied by the controleur, Mr. R. Schreuder, I went to call on the Sultan. He was a man of about thirty-five years, rather prepossessing in appearance, and proud of his ancestry, although time has so effaced his Dayak characteristics that he looks like a Malay. Dato Mansur, his executive, met us at the landing and escorted us into the presence of the Sultan and his wife, where we were offered soda-water and whiskey, and we remained an hour. They are both likeable, but the Sultan appears rather nervous and frail, and it is rumoured that his health has suffered as a result of overindulgence in spiritualistic séances. He gave an entertaining account of natives living in the trees on the Malinau River. As it had been impossible for me to obtain cartridges for my Winchester rifle, the Sultan was kind enough to lend me one of his before we parted, as well as two hundred cartridges. He also obligingly sent Dato Mansur up the river to Kaburau, the principal Kayan kampong (village) to secure men and boats for an intended expedition inland from there.

The main business of Tandjong Selor, as everywhere in Borneo, is buying rattan, rubber, and damar (a kind of resin) from the Malays and the Dayaks, and shipping it by steamer to Singapore. As usual, trade is almost entirely in the hands of the Chinese. The great event of the place is the arrival of the steamer twice a month.

When the whistle is heard from down the river a great yell arises from all over the town. The steamer is coming! People by the hundreds run down to the wharf amid great excitement and joy. Many Malays do not work except on these occasions, when they are engaged in loading and unloading. The principal Chinese merchant there, Hong Seng, began his career as a coolie on the wharf. He has a fairly well-stocked store with some European and American preserved articles, and was reliable in his dealings, as the Chinese always are. He was rich enough to have of late taken to himself a young wife, besides keeping his first one. His two young sons who assisted him had been at school in Singapore, and were proud to air their knowledge of English.

The house where I lived was on the main street, on the river bank, and in the evening the little shops on either side started playing nasty, cheap European phonographs the noise of which was most disagreeable. Most of the records were of Chinese music, the harsh quality of which was magnified tenfold by the imperfections of the instruments. When the nerve-wracking concert became intolerable, they were always good enough to stop it at my request.

However, there was one feature about this remote place which was repugnant—the prevalent flogging of children with rattan, mostly among the Mohammedan Malays. Not a day passed without wails and violent cries arising in some part of the town, especially during the forenoon, although I did not perceive that the children here were more incorrigible than elsewhere. The Dayaks

for the deep blue head, and with a very long graceful tail. It is also called paradise flycatcher (*terpsiphone*), and is found from Sumatra up into middle China. In Borneo it is quite common, being observed also on the Mahakam in the central part of the island. According to the legend, it formerly cost a man his life to kill it. This man soon showed himself to be an excellent worker who took his business very seriously and did not allow himself to be distracted when I amused visiting Kayans with simple moving pictures and by playing a music-box. The jungle, dripping with dew in the early morning, did not deter him, and at night it was his custom to shoot owls and hunt for deer or other animals. After arranging his tent with little or no help from the Dayaks, he would next put up a frame-work on which to dry his skins, under a roof of palm leaves; here a fire was always kept, without which the skins would have spoiled in that damp climate. Chonggat had a fine physique, was always pleasant and willing and was possessed of more than ordinary intelligence withal. Also keenly humourous, he enjoyed my initial mistakes in Malay, though maintaining a proper respect for the leader of the expedition.

In the evening, having retired for the day, he, as well as the Chinese photographer could be heard in their respective tents studying English from small guide-books which they had brought along. He told me that his earnings were invested in a small rubber plantation which he and his brothers worked together. Chonggat was a good example of what a native of Borneo can accomplish under proper civilizing influences.

One morning he brought in a king cobra (*naia bungarus*) which he had shot, and as life was not yet extinct I got a good photograph of it. This serpent was about three metres long, but these very poisonous snakes, called ular tadong by the Malays, attain a length of seven metres. They are beautifully formed for quick movement, and will attack human beings, the female being particularly vicious when it has eggs. "When I see ular tadong coming toward me," said Chonggat, who was no coward, "then I run." There are several species of very poisonous snakes in Borneo, but according to my experience they are not very numerous. Two small ones, about thirty-five centimetres long, are the most common varieties encountered in the jungle. They are sluggish and somewhat similar in appearance, dark brown and red being the principal colours. One of them has its under side decorated with transverse sections of beautiful scarlet alternating with black.

Ah Sewey, the photographer, was also an efficient man, but at first we had immense difficulty with the developing. One cannot count on water cooler than 75° F., and at that temperature the films come out well, but in the beginning many plates were spoiled. For the photographer in the tropics the use of formalin is an absolute necessity. He must also face other difficulties, avoiding among other things the possibility of having his films, when drying, eaten by small species of grasshoppers.

CHAPTER IV

AN EXPEDITION INTO THE JUNGLE—FIRST IMPRESSIONS—RAPID CHANGE IN THE DENSENESS OF VEGETATION—ANIMAL LIFE—A STUBBORN FIGHT

ABOUT the middle of January, I began an expedition into the utan, as the Malays call the great jungles of Borneo, first going up the river half a day and from there striking inland toward the north. If circumstances proved favourable, I intended to travel as far as Bengara, about twelve days' trip for a Dayak with a light burden to carry. In case of unfavourable weather and too much delay in getting fresh provisions, I felt that I should be satisfied in penetrating well into a region not before visited by whites, where I might succeed in coming into contact with the shy nomads, called Punans, known to roam there in limited numbers. To this end I had taken along one of the Sultan's petty officials, a so-called raja, who exercised more or less control over the Punans. This man, evidently half Malay and half Dayak, and as nude as the rest, demanded to be waited upon by the other natives, who even had to put up his hair. He was lazy; he would not be a raja if he were not. If he were on the move one day, he would sleep most of the next.

Among my twenty-two Kayans was an efficient and reliable man called Banglan, the sub-chief of Kaburau, who was alert and intelligent. He had only one hand,

the result of a valorous fight with a crocodile, by which his prahu (native boat) had been attacked one day at dawn in a small tributary of the river. The animal actually upset the prahu and killed his two companions, in trying to save whom with no weapon but his bare hands, he lost one in the struggle. In their contact with the crocodiles the Dayaks show a fortitude almost beyond belief. A Dutch doctor once treated a man who had been dragged under water, but had the presence of mind to press a thumb into each eye of the reptile. He was badly mangled, but recovered.

As long as we remained at a low altitude camping out was not an unalloyed pleasure, because the tormenting gnats were exasperating, and at night the humidity was great, making the bed and everything else damp. The atmosphere was heavy and filled with the odor of decaying vegetable matter never before disturbed. In the morning at five o'clock, my hour for rising, there was considerable chill in the air. It was difficult to see a star here and there through the tall trees and dense undergrowth that surrounded us as closely as the walls of a cave.

The stagnant atmosphere and dark environment, which the sun's rays vainly attempted to penetrate, began to have a depressing effect on my spirits. After a couple of nights spent thus, a longing for sunshine came over me and I decided to stay one day, make a clearing, dry our belongings, and put up a shelter in which to leave some of our baggage; all of which could not be carried up the hills.

I told the raja and Banglan that I wanted the sun to shine into the camp, and the men immediately set to work with cheerful alacrity. The Dayaks have no rivals in their ability to make a tree fall in the desired direction. First, by carefully sighting the trunk, they ascertain the most feasible way for the tree to fall, then they chop at the base with native axes, sometimes four men working, two and two in unison. In a remarkably brief time it begins to weaken, the top making slight forward movements which are followed by a final sharp report announcing the end of their labour.

Quickly noting that they were masters in their craft, I permitted them to fell forest giants in close proximity to our tents, some of which landed but half a metre distant. Immense specimens in their fall brought down thickets of creepers and smaller growths which produced big openings, so we succeeded in making quite a sunny camp in the dark jungle.

Since that experience I have made it an invariable rule in my travels to cut a small clearing before putting up my tent in the jungle. Sometimes the felling of one or two trees will ameliorate the situation immeasurably, admitting fresh air and sunlight, and there is little difficulty about it when one is accompanied by such able and willing men as the Dayaks. For their own use when travelling they make simple shelters as night approaches, because they dislike to get wet. The material is always close at hand. Slender straight poles are quickly cut and brought in to make frame-work for a shed, the floor of which is about half a metre above ground. The roof

APPROACHING KABURAU, ON THE KAYAN RIVER

BANGLAN, A KAYAN, AND HIS FAMILY. KABURAU

He had lost one hand in an encounter with a crocodile

LADDERS, BELOW LONG PANGIAN, ON THE KAYAN RIVER

These primitive contrivances furnish the usual means of access from water to kampong

is made of big leaves, and in less than an hour they are comfortably at home in one or more sheds, grouped around fires on the flimsy floor.

It is a curious fact that one can always manage to make a fire in these damp woods; a petroleum burner is not essential. The natives always know where to go to find something dry that will burn; as for the white man's cook, he usually improves upon the situation by soaking the wood in petroleum, which is one of the valuable articles of equipment. Often in the jungle, when slightly preparing the ground for erecting the tent, phosphorescent lights from decayed vegetable matter shone in innumerable spots, as if a powerful lamp were throwing its light through a grating.

In ascending the hills it was surprising how soon the aspect of the vegetation changed. The camp we were just leaving was only about a metre above the Kayan River, so we probably were not more than twenty-odd metres above sea-level. Twenty metres more, and the jungle vegetation was thinner even at that short distance. Trees, some of them magnificent specimens of hard wood, began to assert themselves. Above 100 metres elevation it was not at all difficult to make one's way through the jungle, even if we had not had a slight Punan path to follow. It is easier than to ascend the coast range of northeast Queensland under 18° S.L., where the lawyer palms are very troublesome. Making a light clearing one evening we opened the view to a couple of tall trees called in Malay, palapak, raising their crowns high above the rest; this is one of the trees from which the natives

make their boats. The trunk is very tall and much thicker near the ground.

Reaching a height of 500 metres, the ground began to be slippery with yellow mud, but the jungle impeded one less than the thickets around Lenox, Massachusetts, in the United States. Toward the south of our camp here, the hill had an incline of 45 degrees or less, and one hardwood tree that we felled travelled downward for a distance of 150 metres. A pleasant soft breeze blew for about ten minutes, for the first time on our journey, and the afternoon was wonderfully cool.

A Kayan messenger here arrived from the kampong, bringing a package which contained my mail, obligingly sent me by the controleur. The package made a profound impression on the Dayaks as well as on the Chinese interpreter, all of whom crowded around my tent to observe what would follow. I went elsewhere for a little while, but it was of no avail. They were waiting to see the contents, so I took my chair outside, opened and read my mail, closely watched all the time by a wondering crowd.

None of our attendant natives had been in this part of the country before except a Punan, now adopted into the Kayan tribe, who knew it long ago and his memory at times seemed dimmed. Fresh tracks of rhinoceros and bear were seen and tapirs are known to exist among these beautiful wooded hills. Chonggat succeeded in shooting an exceedingly rare squirrel with a large bushy tail. We finally made camp on top of a hill 674 metres in height which we called kampong Gunong.

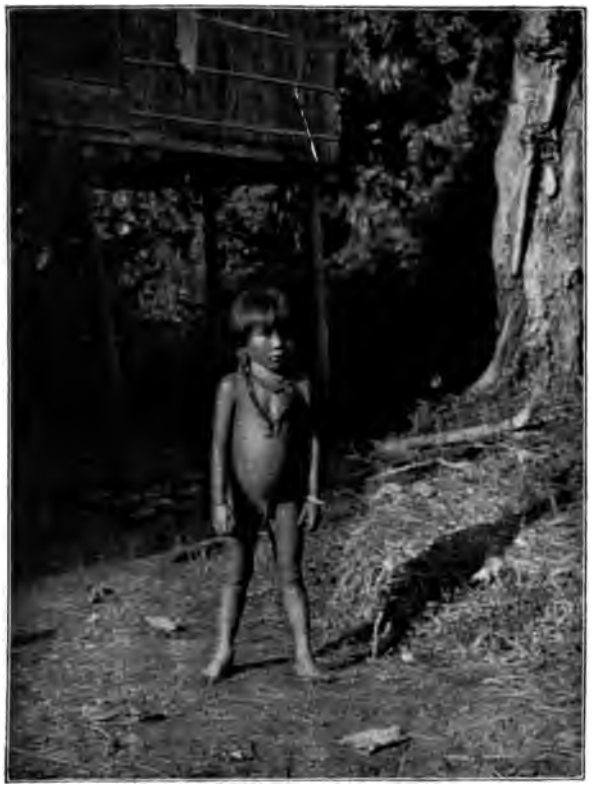
YOUNG KAYAN, FROM KABURAU

KAYAN, FROM KABURAU

Shows a Chinese manner of hair-dressing which was also observed among the Kenyah, Duhoi, and Katingan Dayaks

KAYAN, FROM KABURAU

Showing the distended ear lobes, onto which rings are hung as ornaments



KAYAN CHILD, KABURAU

KAYAN MOTHER AND INFANT. NEAR LONG PANGIAN

The Dayaks helped me to construct a small shed with a fireplace inside where I could dry my wet clothing, towels, etc. Of their own initiative they also put up around the tent some peculiar Dayak ornamentations in the shape of long spirals of wood shavings hung on to the end of poles or trees which they planted in the ground. The same kind of decorations are used at the great festivals, and when a gentle wind set them in motion they had quite a cheerful, almost festive appearance.

Every morning, almost punctually at five o'clock, the gibbons or long-armed, man-like apes, began their loud chatter in the tree-tops, more suggestive of the calls of birds than of animals. They are shy, but become very tame in confinement and show much affection. A wah-wah, as the animal is called in this part of the world, will throw his arms around the neck of his master, and is even more human in his behaviour than the orang-utan, from which he differs in temperament, being more vivacious and inclined to mischief. In a kampong I once saw a young gibbon repeatedly descend into a narrow inclosure to tease a large pig confined there. The latter, although three or four times as large, seemed entirely at his mercy and was submissive and frightened, even when his ears were pulled by the wah-wah. During my travels in the jungle of Borneo, few were the days in which I was not summoned to rise by the call of the wah-wah, well-nigh as reliable as an alarm clock.

My stay here was protracted much longer than I expected on account of rain and fog, which rendered photographing difficult; one or the other prevailed almost

continuously. Frequently sunlight seemed approaching, but before I could procure and arrange my camera it had vanished, and light splashes of rain sounded on my tent. This was trying, but one cannot expect every advantage in the tropics, which are so beautiful most of the year that I, for one, gladly put up with the discomforts of a wet season.

Rain-storms came from the north and northeast; from our high point of view, one could see them approaching and hear the noise of the rain on the top of the jungle many minutes before they arrived. A few times, especially at night, we had storms that lasted for hours, reaching sometimes a velocity of eighty kilometres an hour. The trees of the jungle are naturally not exposed to the force of the wind, standing all together, so those surrounding our clearing seemed helpless, deprived of their usual support. Some smaller ones, apparently of soft wood, which had been left on the clearing, were broken, and the green leaves went flying about. On one occasion at dusk Banglan stood a long time watching for any suspicious-looking tree that might threaten to fall over the camp. Torrents of rain fell during the night and we could barely keep dry within our tents. The rain was more persistent here in the vicinity of the lower Kayan than in any other part of Borneo during my two years of travel through that country.

White-tailed, wattled pheasants (*lobiophasis*), rare in the museums, were very numerous here. This beautiful bird has a snow-white tail and its head is adorned with four cobalt-blue appendages, two above and two under-

neath the head. The Dayaks caught this and other birds alive in snares, which they are expert in constructing. I kept one alive for many days, and it soon became tame. It was a handsome, brave bird, and I was sorry one day to find it dead from want of proper nourishment, the Dayaks having been unable to find sufficient rain-worms for it.

The beautiful small deer, kidyang, was secured several times. Its meat is the best of all game in Borneo, although the Kayans look upon it with disfavour. When making new fields for rice-planting, if such an animal should appear, the ground is immediately abandoned.

Scarcely fifty metres below the top of the hill was our water supply, consisting of a scanty amount of running water, which stopped now and then to form tiny pools, and to my astonishment the Dayaks one day brought from these some very small fish which I preserved in alcohol. Naturally the water swells much in time of rain, but still it seems odd that such small fish could reach so high a point.

Many insects were about at night. Longicornes scratched underneath my bed, and moths hovered about my American hurricane lamp hanging outside the tent-door. Leeches also entered the tent and seemed to have a predilection for the tin cans in which my provisions and other things were stored. In the dim lamplight I could sometimes see the uncanny shadows of their bodies on the canvas, raised and stretched to an incredible height, moving their upper parts quickly to all sides before proceeding on their "forward march." To some people, my-

self included, their bite is poisonous, and on the lower part of the legs produces wounds that may take weeks to cure.

One day native honey was brought in, which had been found in a hollow tree. It was sweet, but thin, and had no pronounced flavour. A few minutes after the honey had been left on a plate in my tent there arrived a number of large yellow hornets, quite harmless apparently, but persevering in their eagerness to feast upon the honey. During the foggy afternoon they gathered in increased numbers and were driven off with difficulty. The temporary removal of the plate failed to diminish their persistence until finally, at dusk, they disappeared, only to return again in the morning, bringing others much larger in size and more vicious in aspect, and the remaining sweet was consumed with incredible rapidity; in less than two hours a considerable quantity of the honey in the comb as well as liquid was finished by no great number of hornets.

Later several species of ants found their way into my provision boxes. A large one, dark-gray, almost black, in colour, more than a centimetre long, was very fond of sweet things. According to the Malays, if irritated it is able to sting painfully, but in spite of its formidable appearance it is timid and easily turned away, so for a long time I put up with its activities, though gradually these ants got to be a nuisance by walking into my cup, which they sometimes filled, or into my drinking-water. Another species, much smaller, which also was fond of sugar, pretended to be dead when discovered. One day at ten o'clock in the morning, I observed two of the big ants, which I had come to look upon as peaceful, in violent com-

bat outside my tent. A large number of very tiny ones were busily attaching themselves to legs and antennæ of both fighters, who did not, however, greatly mind the small fellows, which were repeatedly shaken off as the pair moved along in deadly grip.

One of the combatants clasped his nippers firmly around one leg of the other, which for several hours struggled in vain to get free. A small ant was hanging on to one of the victor's antennæ, but disappeared after a couple of hours. Under a magnifying-glass I could see that each fighter had lost a leg. I placed the end of a stick against the legs of the one that was kept in this merciless vice, and he immediately attached himself to it. As I lifted the stick up he held on by one leg, supporting in this way both his own weight and that of his antagonist. Finally, they ceased to move about, but did not separate in spite of two heavy showers in the afternoon, and at four o'clock they were still maintaining their relative positions; but next morning they and the other ants had disappeared.

CHAPTER V

MEETING PUNANS, THE SHY JUNGLE PEOPLE—DOWN THE RIVER AGAIN—MY ENTHUSIASTIC BOATMEN—MALAYS VERSUS DAYAKS

At my request the raja, with a few companions, went out in search of some of the shy jungle people called Punans. Seven days afterward he actually returned with twelve men, who were followed by seven more the next day. All the women had been left one day's journey from here. These Punans had been encountered at some distance from kampong Bruen, higher up the river, and, according to reports, made up the entire nomadic population of the lower Kayan River. Most of them were rather tall, well-made men, but, as a result of spending all their lives in the darkness of the jungle,* their skin colour, a pale yellowish brown, was strikingly lighter, especially the face, than that of the Kayans.

They actually seemed to hate the sun, and next day when it broke through the mist for a little while they all sought shelter in the shade of trees. As a result of their avoidance of direct rays from the sun they have a washed-out, almost sickly pale appearance, contrasting strangely with the warm tone of light brown which at times may be observed among the Dayaks. This is probably the reason why they are not very strong, though apparently muscular, and are not able to carry heavy burdens. They

* In von Luschan's table, Punan 15, Kayan 22.

began at once to put up a shed similar to those of the Dayaks, but usually their shelters for the night are of the rudest fashion, and as they have only the scantiest of clothing they then cover themselves with mats made from the leaves of the fan-palm.

On the Upper Mahakam I later made acquaintance with some of the Punans who roam the mountainous regions surrounding the headwaters of that river. Those are known under the name Punan Kohi, from a river of that name in the mountains toward Sarawak. The members of the same tribe further east in the mountains of the Bulungan district are called Punan Lun, from the River Lun, to whom the present individuals probably belonged. According to the raja, there are two kinds of Punans here, and his statement seems to be borne out by the variations in their physical appearance.

These nineteen nomads had black hair, straight in some cases, wavy in others. Most of them had a semblance of mustache and some hair on the chin. Their bodies looked perfectly smooth, as they remove what little hair there may be. Some of them had high-arched noses. The thigh was large, but the calf of the leg usually was not well-developed, though a few had very fine ones; and they walked with feet turned outward, as all the Dayaks and Malays I have met invariably do. The only garment worn was a girdle of plaited rattan strings, to which at front and back was attached a piece of fibre cloth. Although dirty in appearance, only one man was afflicted with scaly skin disease. Visits to the hill-tops are avoided by them on account of the cold, which they felt much in

our camp. Their dark-brown eyes had a kindly expression; in fact they are harmless and timid-looking beings, though in some parts of Borneo they engage in head-hunting, a practice probably learned from the Dayaks. Those I talked with said the custom was entirely discontinued, although formerly heads of other Punans, Malays, or Dayaks had been taken.

These natives, following no doubt an observance prevalent among the Dayaks, had some of their teeth filed off in the upper jaw, the four incisors, two cuspids, and two bicuspids. Our Kayans from Kaburau had no less than ten teeth filed off, the four incisors and three more on either side. The operation is performed when a boy or girl becomes full-grown. For the boys it is not a painful experience, but the girls have theirs filed much shorter, which causes pain and loss of blood.

The Punans make fire by iron and flint which are carried in a small bamboo box. They are expert regarding the manufacture of the sumpitan (blow-pipe), and are renowned for their skill in using this weapon and can make the poisonous darts as well as the bamboo caskets in which these are carried. Subsisting chiefly upon meat, their favourite food is wild pig.

At the birth of a child all the men leave the premises, including the husband. The dead are buried in the ground a metre deep, head toward the rising sun. The Punans climb trees in the same manner as the Kayans and other Dayaks I have seen, *i. e.*, by tying their feet together and moving up one side of the tree in jumps. The Kayans in climbing do not always tie the feet.

PUNANS, THE SHY NOMADS OF THE JUNGLE

PUNANS NEAR MY CAMP

These shy nomads remained in camp two days and allowed themselves to be photographed. One morning seven of them went out to look for game, armed with their long sumpitans and carrying on the right side, attached to the girdle, the bamboo casket that contained the darts. They formed a thrilling sight in the misty morning as in single file they swung with long, elastic steps up the hill. Though the Punans are famous as hunters and trappers, they returned in a few hours without any result. Next morning when I ventured to begin taking their measurements they became uneasy and one after another slipped away, even leaving behind part of their promised rewards, rice and clothing for the women, and taking with them only tobacco and a large tin of salt, which I rather regretted, as they had well earned it all.

We made a trip of a few days' duration to the next elevation, Gunong Rega, in a northerly direction, most of the time following a long, winding ridge on a well-defined Punan trail. The hill-top is nearly 800 metres above sea-level (2,622 feet), by boiling thermometer, and the many tree-ferns and small palm-trees add greatly to its charm and beauty.

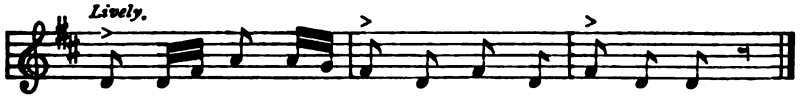
Toward the end of February I made my way back to the river. From our last camp, one day's march downward, three of my strongest Kayans had carried 45 kilograms each. My Javanese cook, Wong Su, on arriving in camp, felt ill and I found him lying prostrate. He had not been perspiring on the march down the hills and complained of chilly sensations. He also presented the symptoms of a cold attack of malaria, but it was simply the

effects produced by the bites of leeches, to which he was particularly susceptible. He had seven bites on one ankle and two on the other, and the resulting wounds were swollen and suppurating, but by the application of iodine followed by hot compress bandages, he was able to resume his work in three days. Nevertheless, suppuration formed even at a distance from the wounds, and five months later they were not entirely healed. It is bad policy to remove leeches forcibly in spite of the temptation to do so. The application of salt or tobacco juice makes them drop off, and the wounds are less severe, but few persons have the patience to wait after discovering a leech. The animal is not easily killed. The Dayaks always remove it with the sword edge and immediately cut it in two.

On our return to our old lodging-house near Kaburau I spent a week making ethnological collections from the Kayan, who brought me a surprising number, keeping me busy from early until late. Before continuing my journey up the river I decided to go down to Tandjong Selor in order to buy necessary provisions and safely dispose of my collections. The Kayans were glad to provide prahus, the keelless boats which are used by both Dayak and Malay. The prahu, even the largest size, is formed from a dugout, and to the edge on either side are lashed two boards, one above and overlapping the other. This is accomplished by threading rattan through numerous small holes. As these are not completely filled by the rattan, they are plugged with fibre and calked with damar to prevent leakage.

In order to travel more comfortably we lashed a prahu at either side of mine, while many of the natives who took advantage of the occasion to visit the shops in town, tied theirs at the rear of ours. It was a gay flotilla that proceeded down the river, the Dayaks singing most of the time, especially the women who accompanied their husbands, a number of them sitting in my large but crowded prahu. The women never seemed to grow tired of the Mae Lu Long, a jolly song which I had several times heard them singing when returning from the fields in the evening. Its words are of a language called Bungkok. The Kenyahs have the same song, and when I sang it to the Penihings on the Upper Mahakam they also understood it. These Kayans (Segai) are able to sing in the following six dialects or languages: Bungkok, Tekená, Siudalong, Siupanvei, Lepói, and Lui Lui.

KAYAN WOMEN'S SONG
(On returning from the fields)



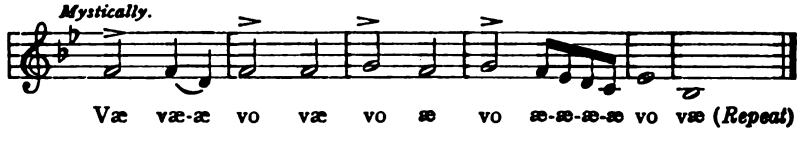
Mæ lun long sun dong min ma - li min kam lam (*Repeat*)

At times as they paddled along, the men would sing without words, but more impressively, a song which until recently was used when the Kayan returned to a kampong from a successful head-hunting expedition. Though the Dutch authorities evidently have stamped out head-hunting on the Kayan River, and have even destroyed the heads that were hanging in the houses, smashing them and throwing them into the river, the Kayan still speaks

of the custom in the present tense. Even one or two of my companions were credited with having taken part in such expeditions.

To-day the young men sing the song of the returning head-hunters more for the fun of it, but the enthusiasm of all waxed high when the paddlers took it up. Those who did not paddle would reach out for the large trumpets which, as part of my collections, were lying in my prahu, and blow them with full force as an accompaniment, just as these instruments formerly were used on real occasions. A deep, strong bass sound is produced which resembles the distant whistle of a big ocean steamer. The men at the rear would join in with wild shouts like those made by American cowboys, most of them rising in their prahus to be able to give more impetus to the paddles. The powerful strokes of our enthusiastic crew made my prahu jump with jerky movements, and we progressed rapidly, arriving early in the afternoon at Tandjong Selor. This time I was made comfortable in a government's pasang-grahan that had just been completed, and which was far enough from the main street to avoid disturbing noise.

KAYAN HEAD-HUNTERS' SONG
(On returning from a successful raid)



I had found the Kayans very agreeable to deal with, and later had the same experience with many other tribes of Borneo. They ask high prices for their goods, but are

PUNAN USING THE SUMPITAN OR BLOWPIPE

KAYAN CLIMBING A TREE

not bold in manner. Though I made no special effort to ingratiate myself with them they always crowded round me, and sometimes I was compelled to deny myself to all callers regardless of their wishes. When I was reading or writing it was necessary to tell them to be quiet, also to stop their singing at night when my sleep was too much disturbed, but they were never offended. Presents of fruit, fish, mouse-traps, and other articles which they thought I might like, were constantly offered me. The women, free and easy in their manners, were ladylike to a surprising degree. In spite of having had ten teeth of the upper jaw filed down and the remainder coloured black by the constant chewing of betel. they are literally to the manner born.

The controleur told me that his large district, the northernmost part of Dutch Borneo, called Bulungan, comprised "about 1,100 square miles." He estimated the number of inhabitants to be about 60,000, roughly speaking, 50 to each mile, but the population here as elsewhere follows the rivers. The Dayaks are greatly in majority, the Malays inhabiting the Sultan's kampong and a couple of small settlements in the vicinity. He had travelled a good deal himself and taken census where it was possible. His statistics showed that among the Dayaks the men outnumber the women somewhat, and that children are few. In one small kampong there were no children. The same fact has been noted in other parts of Borneo. The hard labour of the women has been advanced as a reason. Doctor A. W. Nieuwenhuis believes that inborn syphilis is the cause of the infertility

of the Bahu on the Upper Mahakam. Whatever the reason, as a matter of fact the Dayak women are not fertile. The chief of the Kayan kampong, Kaburau, at the time of my visit had a fourth wife on probation for two years, having previously dismissed three because they bore him no children.

With the Malays the condition is just the reverse. Their total number in the Bulungan district is perhaps only one-tenth that of Dayaks, but with them women preponderate and there are many children. Such is the case in the rest of Dutch Borneo, and is one reason why the Malays ultimately must dominate.

The Sultan had for weeks been preparing to celebrate the marriage of his younger brother, which event occurred before I left, and the festivities were to continue for ten days. As a feature of the occasion, two young Malay girls presented a dance which they evidently had not practised sufficiently. Among the company was an old Malay who, according to the testimony of all present, was one hundred and thirty years old. He had lived to see seven sultans and was the ancestor of five generations. His movements were somewhat stiff, but otherwise he was a young-looking old man who, still erect, carried a long stick which he put down with some force at each step. I photographed the Sultan, who donned his official European suit, in which he evidently felt exceedingly uncomfortable. The operation finished, he lifted up the skirts of the long black robe as if to cool himself, and walked hurriedly away toward the house.

CHAPTER VI

RESUMPTION OF MY JOURNEY UP THE KAYAN RIVER—LONG PANGIAN—BERI-BERI—HINTS ON PROPER PROVISIONS—KENYAHS FROM CENTRAL BORNEO—EFFECT OF A SPIDER'S BITE

SHORTLY after my arrival in Tandjong Selor, fifty Dayaks, mostly Kenyahs, Oma Bakkah, and some Kayans, arrived from distant Apo Kayan on a trading expedition, and I considered this rather fortunate, as it would largely solve the difficult question of prahus and men for my journey up the river. The controleur and the Sultan also co-operated in assisting me to make a start, but when at last all seemed in readiness, the Malays allowed one of our prahus to drift away down toward the sea; after other similar delays I finally began my expedition up the Kayan River.

At the old pasang-grahan near Kaburau, I found that during our two weeks' absence surprising changes had taken place in the vegetation of the immediate surroundings. The narrow path leading from the river up the embankment was now closed by large plants in flower, one species looking like a kind of iris. The grass which we had left completely cut down had grown over twenty centimetres. (Three weeks later it was in bloom.) It was the month of March and several big trees in the surrounding jungle were covered with masses of white blossoms.

It is about 112 kilometres from Tandjong Selor to

Long Pangian, our first halting-place, and, as the current of the river is not strong until the last day, the distance may be covered in four days. When low the Kayan River is light greenish-brown, but when high the colour changes to a muddy red-brown with a tinge of yellow. We used the dilapidated pasang-grahans as shelters, but one night we were obliged to camp on the river bank, so I had the tall, coarse grass cut down on the embankment, which was a few metres higher than the beach. Underneath the tall growth was another kind of grass, growing low and tangled like a mat, which could be disposed of by placing poles under it, lifting it and rolling it back, while at the same time the few roots attaching it to the ground were cut with swords. In less than fifteen minutes I had a safe place for my tent.

The Dayaks, however, who have little to concern them except their prahus, in which is left whatever baggage they may have, as usual slept in the prahus or on the stony beach. During the night the river rose a metre, and some of the men awoke in water. The Chinese mandur, notwithstanding my warnings, had tied his prahu carelessly, and in the middle of the night it drifted off, with lighted lamp and two Dayaks sleeping in it. Luckily some of the others soon discovered the accident and a rescuing party brought it back early in the morning. The "kitchen" had been moved up to my place, and in spite of rain and swollen river we all managed to get breakfast. I had a call from the chief of the near-by kampong, who spoke excellent Malay, and had visited New Guinea twice on Dutch expeditions, once with Doctor Lorenz.

KAYAN AT THE AUTHOR'S CAMP, BLOWING A NATIVE WIND INSTRUMENT

THE KING COBRA (*NAIA BUNGARUS*)

This very poisonous and aggressive species reaches a length of seven meters

YOUNG ORANG-UTANS

One characteristic of the climate which had impressed him much was the snow, which had been very cold for the feet. He was kind enough to send me a present of a young fowl, which was very acceptable.

Long Pangian is a small settlement where ten native soldiers are kept, under the command of a so-called post-houder, in this case a civilized Dayak from the South, who met us at the landing in an immaculate white suit and new tan shoes. It was warmer here toward the end of March than at Tandjong Selor, because there had not been much rain for a month. The soil was therefore hard, and in the middle of the day so heated that after a shower it remained as dry as before. A few Chinamen and Bugis who live here advance rice and dried fish to the Malays to provision expeditions into the utan which last two to three months, receiving in return rubber and damar. The Malays come from lower down on the river, and a good many of them leave their bones in the jungle, dying from beri-beri; others ill with the same disease are barely able to return to Long Pangian, but in three weeks those who do return usually recover sufficiently to walk about again by adopting a diet of katsjang idju, the famous green peas of the East Indies, which counteract the disease. The Malays mix native vegetables with them and thus make a kind of stew.

The rice traded in Borneo is of the ordinary polished variety, almost exclusively from Rangoon, and it is generally supposed that the polishing of the rice is the cause of this illness. The Dutch army in the East seems to have obtained good results by providing the so-called silver-

fleeced rice to the soldiers. However, I was told that, in some localities at least, the order had to be rescinded, because the soldiers objected so strongly to that kind of rice. Later, on this same river, I personally experienced a swelling of the ankles, with an acceleration of the heart action, which, on my return to Java, was pronounced by a medical authority to be beri-beri. Without taking any medicine, but simply by the changed habits of life, with a variety of good food, the symptoms soon disappeared.

It is undoubtedly true that the use of polished rice is a cause of beri-beri, because the Dayaks, with their primitive methods of husking, never suffer from this disease, although rice is their staple food. Only on occasions when members of these tribes take part in expeditions to New Guinea, or are confined in prisons, and eat the rice offered of civilization, are they afflicted with this malady. In my own case I am inclined to think that my indisposition at the commencement of my travels in Borneo was largely due to the use of oatmeal from which the husks had been removed. Rolled oats is the proper food.

Modern research has established beyond doubt, that the outer layers of grains contain mineral salts and vitamines that are indispensable to human life. Facts prove that man, if confined to an exclusive diet of white bread, ultimately dies from malnutrition. Cereals which have been "refined" of their husks present a highly starchy food, and unless they are properly balanced by base-forming substances, trouble is sure to follow. Scurvy, beri-beri, and acidosis have been fatal to many expeditions, though these diseases no doubt can be avoided by

a judicious selection of provisions that insure acid and base forming nutrition in the right proportion.*

As a precautionary measure during my further travels in Borneo I adopted the green peas of the Orient in my daily diet, and when properly cooked they suit my taste very well. Every day my native cook made a pot of katjang idju, to which I added as a flavour Liebig's extract, and when procurable different kinds of fresh vegetables such as the natives use. Almost any kind of preserved vegetables or meat, especially sausages, is compatible with this stew, which is capable of infinite variations. For a year and a half I used it every day, usually twice a day, without becoming tired of it, and this regimen undoubtedly was the reason why the symptoms of acidosis never reappeared.

* For an illuminating example of poorly balanced food, see *Physical Culture Magazine*, New York, for August, 1918, in which Mr. Alfred W. McCann describes the disaster to the Madeira-Mamore Railway Company in Brazil, when "four thousand men were literally starved to death on a white bread diet." In the July number may be found the same food expert's interesting manner of curing the crew of the German raider *Kronprinz Wilhelm*, which in April, 1915, put in at Newport News, in Virginia, with over a hundred men seriously stricken with acidosis. The crew had enjoyed an abundance of food from the ships they had raided and destroyed, but a mysterious disease, pronounced to be beri-beri, was crippling the crew. As the patients failed to respond to the usual treatment, the ship's chief surgeon consented to try the alkaline treatment which Mr. McCann suggested to him. The patients rapidly recovered on a diet consisting of fresh vegetable soup, potato-skin liquor, wheat bran, whole-wheat bread, egg yolks, whole milk, orange juice, and apples. No drugs were administered.

It may be added that Dr. Alfred Berg (in the same magazine, September, 1919) recounts the cure of an absolutely hopeless case of stomach trouble by the vegetable juice prepared according to McCann's formula. He has found the results gained by the use of this soup in diet "so remarkable as to be almost unbelievable."

The formula in question, as taken from McCann's article, is: "Boil cabbage, carrots, parsnips, spinach, onions, turnips together for two hours. Drain off liquor. Discard residue. Feed liquor as soup in generous quantities with unbuttered whole-wheat bread."

I may add that besides this dish my main food was milk and biscuits, especially those made of whole wheat. In the tropics no milk will keep beyond a certain time limit unless it is sweetened, which renders it less wholesome. I found Nestlé & Company's evaporated milk serviceable, but their sterilised natural milk is really excellent, though it is expensive on an expedition which at times has to depend on carriers, and in mountainous regions like New Guinea it would be impracticable to carry it. Under these conditions one is content to have the evaporated or the sweetened brand. Sterilised milk, although perhaps a luxury, is a permissible one when travelling by boat, but the fact that it remains sound only a limited time should be borne in mind. However, it helped me to resist the adverse conditions of travel in the equatorial regions, and to return to civilisation in prime physical condition. When I had opportunity I ate the rice of the Dayaks, which is not so well sifted of its husks, and is by far more palatable than the ordinary polished rice. I found the best biscuits to be Huntley and Palmer's College Brown, unsweetened.

As regards one's native companions, the Dayaks or Malays are quite satisfied as long as they get their full rations of rice and dried fish. This is the food they have always been accustomed to and their demands do not go further, although cocoanut-oil for frying the fish adds to their contentment. Katjang idju was usually given them if there was sugar enough to serve with it; they do not care for it unsweetened. I have dwelt at some length on the food question, because information on this subject

may prove useful in case others are tempted to undertake journeys of exploration and research in the East Indies. To have the right kind of provisions is as important in the equatorial regions as in the arctic, and civilised humanity would be better off if there were a more general recognition of the fact that suitable food is the best medicine.

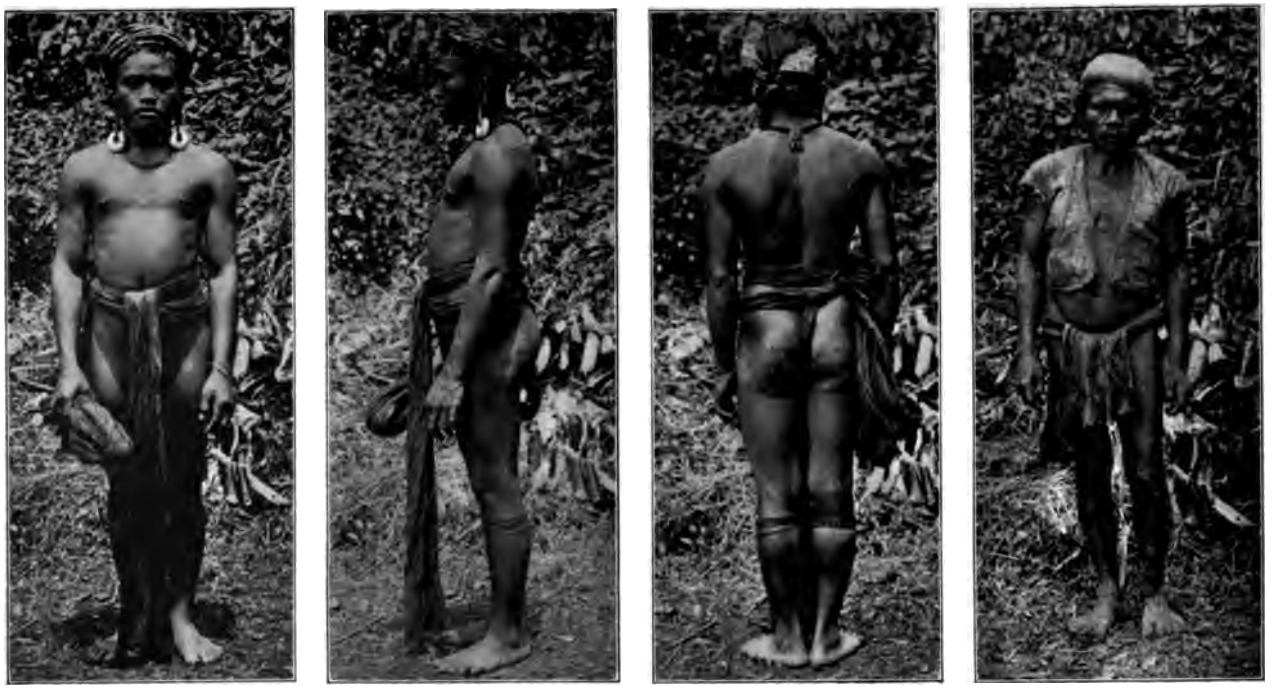
Our Dayaks from Apo Kayan, who had proved very satisfactory, left us at Long Pangian. They had to wait several days before their friends caught up with them, so they could continue their long journey. This party of Dayaks, after spending one month at home in gathering rubber, had travelled in five prahus, covered some distance on land by walking over the watershed, and then made five new prahus in which they had navigated the long distance to Tandjong Selor. Ten men had been able to make one prahu in four days, and these were solid good boats, not made of bark. Already these people had been three months on the road, and from here to their homes they estimated that at least one month would intervene, probably more.

The rubber which they had brought was sold for f. 2,500 to Hong Seng. They had also sold three rhinoceros horns, as well as stones from the gall-bladder and intestines of monkeys and the big porcupine, all valuable in the Chinese pharmacopœa. Each kilogram of rhino horn may fetch f. 140. These articles are dispensed for medical effect by scraping off a little, which is taken internally with water. On their return trip the Dayaks bring salt from the government's monopoly, gaudy cloths for the women, beads, ivory rings for bracelets and

armlets, and also rice for the journey. Should the supply of rice become exhausted they eat native herbs.

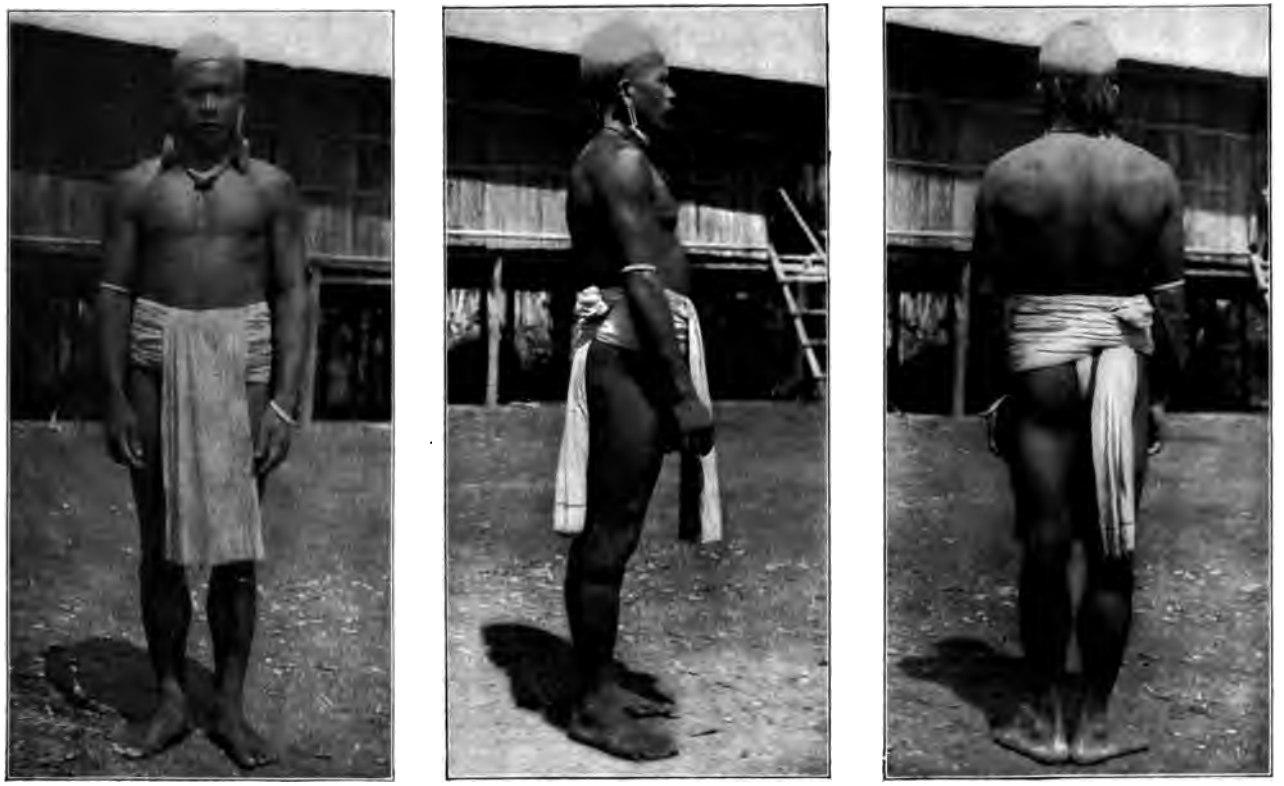
At Long Pangian we were able to develop plates effectively by hauling clear and comparatively cool water from a spring fifteen or twenty minutes away. By allowing six cans (five-gallon oil tins) of water to stand over night, and developing from 4.30 next morning, we got very good results, though the water would show nearly 76° F. My kinematograph was out of order, and desiring to use it on my journey higher up the river, I decided to go again to Tandjong Selor in an endeavour to have it repaired. The delay was somewhat irritating, but as the trip down-stream consumed only two days, I started off in a small, swift boat kindly loaned to me by the post-houder. Fortunately Mr. J. A. Uljee, a Dutch engineer who was in town, possessed considerable mechanical talent: in a few days he succeeded in mending the apparatus temporarily.

As I was preparing to return, another party arrived from Apo Kayan. They were all Kenyahs, Oma Bakkah, who came in seven prahus, and proved so interesting that I postponed my journey one day. The government has put up a kind of lodging-house for visiting Dayaks, and the many fine implements and utensils which these men had brought with them made the interior look like a museum. Their beautiful carrying-baskets and other articles were standing in a continuous row around the walls. These Kenyahs did not seem to have been here before and were agreeable people with whom to deal. I have not, before nor since, seen such a tempting collec-



KAYAN, FROM KABURAU. FRONT, SIDE, AND BACK VIEWS

KAYAN, IN MOURNING DRESS. KABURAU



KENYAH, FROM LONG PELABAN. FRONT, SIDE, AND BACK VIEWS

The ear ornaments worn are carved from the casque of the rhinoceros hornbill

tion of the short sword of the Dayak which has grown to be almost a part of himself. In the northeast these famous swords are called mandau, but the designation parang is more extensively used, and I shall employ that name. One exceedingly fine one, belonging to the chief, I purchased for three sets of ivory rings, each set at fifteen florins, and one sarong. In the blacksmith's art the Dayaks have reached a higher level than the otherwise more advanced Malays and Javanese. There were three women in the party. One of the men was dressed as a woman and his hands were tatued. Though his voice was quite manly, there was something feminine about him and in appearance he was less robust than the others. According to my Chinese interpreter, who has travelled much, there are many such men in Apo Kayan.

I stopped over night at one of the Bugis settlements which have large pineapple plantations. Such delicious pineapples as those in northern Borneo, with an unusual abundance of juice and very slightly acid, I had never before tasted. A gigantic white rat, about the size of a rabbit, which had been caught working havoc with the pineapples, was offered me for sale alive. I afterward regretted that, owing to the great difficulty of transportation, I declined, as no doubt it was a rare, if not a new, species.

In the evening, on my return to Long Pangian, I went to bed in the old pasang-grahan which I occupied there. It consisted of a single large room and had an air of security, so for once I omitted to tuck the mosquito-net underneath me. But this was a mistake, for some animal

bit me, and I was awakened by an intense pain on the left side of my head which became almost unbearable, then gradually subsided, and in two hours I slept again. I applied nothing to the affected area because of the impossibility of locating the bite. On the left side of my neck at the back soon developed two balls of moderate size which had not quite disappeared four years afterward. Next day I found a large dark-coloured spider which no doubt was the culprit. When chased it made long high jumps on the floor, but was finally captured. After that occurrence I paid strict attention to the mosquito-net, and when properly settled in my bed for the night I felt as safe against snakes or harmful smaller animals as if I were in a hotel in Europe.

CHAPTER VII

ON THE ISAU RIVER—A KENYAH CHILD'S FUNERAL—A GREAT FISHING EXPEDITION—CATCHING FISH BY POISONING THE RIVER—TAKING OMENS—ENTERTAINING SCENES

A REPORT came to me that the people of kampong Long Isau (Long = sound; Isau = a kind of fruit) were making preparations to catch fish by poisoning the river, and that they were going immediately to build traps in which the stupefied fish are caught. I decided to go at once, and a few hours later we were on our way up the Isau River, a tributary to the Kayan, at the junction with which lies Long Pangian. We made our camp just opposite the kampong, which has a charming location along a quiet pool formed by the river at this point. The natives here and on the Kayan river above Long Pangian are Kenyahs. Our presence did not seem to disturb them in the least, nor did the arrival of some Malays from Long Pangian, who had closed their little shops in order to take part in the fishing.

The chief was a tall, fine-looking man, the personification of physical strength combined with a dignified bearing. He readily granted permission to photograph the women coming down to the river to fetch water. The Kenyah women wear scantier attire than those of any other tribes of Borneo—simply a diminutive piece of cloth. It was picturesque to see these children of nature

descend the steps of the rough ladder that leads down to the river, gracefully carrying on their backs a load of five or six bamboos, then wade into the calm water, where they bathed for a few moments before filling their receptacles. The Kenyah drinks water by taking it up in his hands while looking at it. In the house he drinks from the bamboo utensils which are always conveniently placed. The Malay throws water quickly into his mouth with his right hand.

There seemed to be an epidemic of cholerine among the children, three having already died and one succumbed while we were at the kampong. The sounding of a gong drew attention to this fact and people assembled at the house of mourning where they wailed for an hour. The fishing was postponed one day on account of the burial, and the work of making the coffin could be heard over on our side of the river. During the night there was much crying.

Next day at noon the funeral took place. First, with quick steps, came two men and two women, parents of children who had died before, followed by the father of the dead child and another man of the family who carried the coffin. The procession embarked in three prahus. The relatives were all attired in simple but becoming mourning garments, made from wood-fibre, consisting of tunics, and wrappers around the loins, which as regards the women covered practically the whole body, and on their heads they wore pointed hats of the same material. In the first prahu the little coffin was placed, and immediately behind it the mother lay

with face down. Over her breast was a broad band of fibre which passed around to the back where it was tied in a large bow. The mourning garb worn in this and other Dayak tribes by relatives of a deceased person is an attempt to elude the evil spirit (antoh) who is regarded as the cause of death and whose wrath the remaining relatives are anxious to evade by disguising themselves in this way. The men poled fast, and ten minutes later the cortege ascended the bank without following a path, and deposited the coffin in a small, old-looking house. Once daily for three days food is deposited near a dead child, while in the case of adults it is given for a long time.

The following day we all started up the river for the great catch. About 300 Dayaks had gathered, with 80 prahus. There were people from as far east as Kaburau, but those of the kampongs west of Long Pangian did not appear as expected. Some of the men carried spears specially devised for fishing, and some had brought their shields. We passed seven traps, in Kenyah called "bring," some in course of making, and others already finished. These rapidly made structures were found at different points on the river. Each consisted of a fence of slightly leaning poles, sometimes fortified with mats, running across the river and interrupted in the middle by a well-constructed trough, the bottom of which was made from poles put closely together, which allowed the water to escape but left the fish dry.

The poison which stupefies or even kills the fish, without making it unfit for food, is secured from the root of a plant called tuba and described to me as being a vine.

The root, which is very long, had been cut up into short pieces and made into about 1,800 small bundles, each kampong contributing its share. The packages had been formed into a beautifully arranged pile, in accordance with the artistic propensities of both Kenyah and Kayan, whose wood-stacks inside the rooms are models of neatness. The heap in this case was two and a half metres long and a metre high, a surprisingly small amount for the poisoning of a whole river.

Before daylight they began to beat these light-brown tuba pieces until the bark became detached. The bark is the only part used, and this was beaten on two previously prepared blocks, each consisting of two logs lashed together, with flattened upper sides. On either side of these crude tables stood as many men as could find room, beating earnestly with sticks upon the bark, singing head-hunting songs the while with much fervour. Occasionally they interrupted the procedure to run about animatedly, returning shortly to resume their labour.

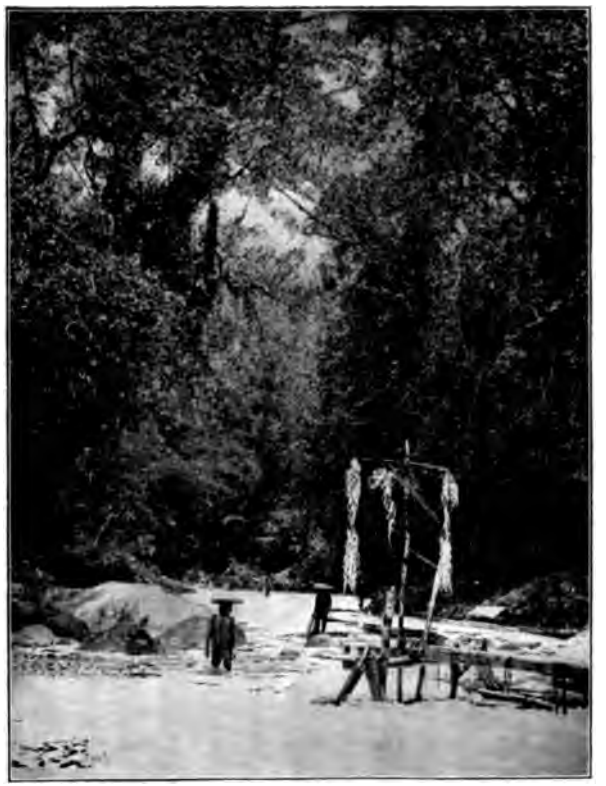
Later an augury was to be taken, and all gathered closely on a wide pebbly beach. First a long piece of root, which is called the "mother of tuba," was beaten vigorously by a number of men. Then one of the principal actors stepped forward and began to make fire in the old-fashioned way, *i. e.*, by pulling with both hands a piece of rattan around a bamboo stick held to the ground. According to several possibilities the divinations are expounded: Should the rattan break before smoke ensues, the undertaking is postponed for an hour or two; if the rattan breaks into two equal parts, fish will not be

TUBA FISHING ON THE ISAU RIVER

Beating the tuba (at the left), and mixing the escaping juice with the water of the river

TAKING THE AUGURY BY FIRE MAKING. ISAU RIVER

In the foreground is seen a heap of tuba pieces



TUBA FISHING

EFFECTS OF THE POISON. PIPA RIVER

The white foam produced an appearance of winter

caught; but if the right-hand piece is longer than the left, all is well and much fish will be the result.

The assemblage was chewing betel, smoking tobacco, and with hopeful patience anticipating a successful outcome, while one chief after another vainly attempted the augury. Only men who have taken heads are permitted to make divinations of fire at the tuba-fishing, and if all the elders have tried and failed the fishing is delayed one day.

The same augury is used when dogs have run away. If the left-hand piece is the longer, the dog is dead; if of the same size, the dog will be found at a distant future time; but if the right is the longer, the animal will be recovered very soon. The reading of pig's liver in regard to the present or the future is used more by the Kayan than by the Kenyah.

It was after nine o'clock in the morning when success was attained, and the fishers all suddenly dispersed. Some of them carried beaten bark into four empty prahus, threw water over it with their hands, then beat it again, until finally it was crushed to shreds. The prahus were then turned over and the stuff emptied into the water, where it soon disappeared. The bark on the blocks, which by this time had the appearance of a reddish-brown fibre, was now thrown into the river with much shouting and running about, whereupon the men ran out of sight, probably to take to their prahus.

The majority of the stupefied fish are caught in the so-called "bring," the traps running across the river, but frantic endeavours were made by those engaged in the

sport to take the fish before the fences were reached, and for this purpose hand nets or spears were used. This part of the proceeding was most entertaining.

The fleet of prahus thoroughly searched the water, descending the river slowly in seven hours. At a few places where the stream makes large pools a few hundred metres long the boats loitered for a considerable time, as the prey would not often rise to the surface. Now and then there was much excitement over a fish that had risen and dived again, and the nearest prahus would all try to get it. Soon a man would be seen to jump after it with fixed spear, pass out of view, and after a while reappear on the surface, invariably with a large fish on the spear point. It was a magnificent exhibition of agility combined with skill.

The Malays also captured many victims with their casting-nets. It is customary for each to consider as his personal property all the fish he obtains. These gatherings afford much delight to the children, of whom a great number accompanied their elders in the prahus. Women and children were in holiday attire, and, in spite of the grotesque ornaments of big rings in the split, distended ear-lobes, the latter were unusually charming. They had bracelets of brass and silver around their wrists and ankles; some of them wore necklaces of antique beads in dull colors, yellow, dark brown, or deep blue. Such a necklace may cost over a thousand florins. The spirit of the whole occasion was like that of a great picnic.

All was over at five o'clock in the afternoon, when the people dispersed to their respective kampongs. At each

of the seven "bring," each belonging to one of the principal men, were caught from 100 to 200 fish, most of them fairly large. I noted seven species. More than a thousand have been caught, and for the next two nights and days the people were engaged in opening and drying fish over fire and smoke. Thus preserved they are of a dark-brown tint, very light in weight, and will keep for three months. Before the dried product is eaten it is pounded, then boiled, and with each mouthful a pinch of salt is taken.

During the night much fish was obtained even as far down the river as our kampong, and many men searched for it here, using as lamps petroleum in bamboo with a piece of cloth for a wick. Next day all the able-bodied people left the kampong for a week's stay at the ladangs (fields), one day's journey up the Kayan River, only the weak and old people remaining behind. On this occasion I observed five or six individuals, men and women, of a markedly light, yellowish colour. One woman's body was as light as that of a white woman, but her face was of the usual colour, perhaps somewhat lighter.

CHAPTER VIII

THE JOURNEY CONTINUED UP THE KAYAN RIVER—FIRST EXPERIENCE OF KIHAMS, OR RAPIDS—WITH KENYAH BOATMEN—ADVANTAGE OF NATIVE COOKING—LONG PELABAN—THE ATTRACTIVE KENYAHS—SOCIAL STRATA—CUSTOMS AND HABITS—VALUABLE BEADS

At Long Pangian several days were spent in vain efforts to secure men and prahus to continue the journey up the Kayan River. The few Malays about, as usual, did not believe in work, but the posthouder finally succeeded in calling Kenyahs from the river above, and on the 1st of May we started with five prahus and twenty-four men. It was quite refreshing to hear again the joyous shouts of the paddlers, who worked eagerly and quickly against the strong current. A little over an hour brought us to some well-known rapids, or "kihams," as they usually are called in Borneo. Formerly this Kiham Raja had a bad reputation, Dayaks being killed here occasionally every year, but of late the government has blasted out rocks and made it more passable. However, even now it is no trifle to negotiate these rapids. Below them we halted and threw explosive Favier into the water in the hope of getting fish, and as soon as the upheaval of the water began the Kenyahs, as if by a given signal, hurried all the prahus out to the scene. With other natives than Dayaks this would have given me some anxiety, as the boats were heavily laden and contained valuable cameras and instruments. We secured

quite a number of fish and the Kenyahs had a good time.

The traveller soon assumes a feeling of confidence in these experienced men as, according to circumstances, they paddle, pole, or drag the prahu by a long piece of rattan tied to the inside of the bow. In passing these rapids most of them got out and dragged us by the rattan, but as the shore consisted of big stones that sometimes were inaccessible, they would often throw themselves with the rope into the foaming water and manage to get foothold a little further up. Sometimes it looked as if they would not succeed, the prahu receding precariously, but they were so quick in their movements and the prahus followed each other so closely that it was possible to give mutual help.

Amban Klesau, the only son of the chief of Long Mahan, directed my prahu. He had taken part in an expedition to New Guinea and was an efficient and pleasant man who had seen something of the world, but his attire was fantastic, consisting of a long white nightshirt with a thin red girdle around the waist, to which was attached his parang adorned with many ornaments. He liked that shirt, for he did not take it off all day, notwithstanding the extreme heat. The dry season had set in, and though in our travels I took good care to place mats over the iron boxes in which cameras and plates were kept, still they became warm. When I photographed, perspiration fell like rain-drops. At Long Mahan (mahan = difficulties, or time spent) we found the pasang-grahan occupied by travelling Malays, two of whom were ill from a disease resembling cholera, so we

moved on to a ladang a little higher up, where we found a camping-site.

Next day we stopped to photograph a beautiful funeral house on the bank of the river, in which rest the remains of a dead chief and his wife. This operation finished, the Dayaks prepared their midday meal consisting of rice alone, which they had brought in wicker bottles. A number of bamboo sticks were procured, which were filled with rice and water and placed in a row against a horizontal pole and a fire was kindled underneath. As soon as this cooking was finished the bamboos were handed to the chief, Amban Klesau, who in the usual way split one open with his parang to get at the contents. Having eaten, he distributed the rest of the bamboos. I was given one, and upon breaking it open a delicious smell met my olfactory sense. The rice, having been cooked with little water, clung together in a gelatinous mass which had a fine sweet taste, entirely lacking when cooked in the white man's way.

During my travels in Borneo I often procured such rice from the Dayaks. It is a very clean and convenient way of carrying one's lunch, inside of a bamboo, the open end closed with a bunch of leaves. Fish and meat are prepared in the same manner. With fish no water is used, nevertheless, when cooked it yields much juice, with no suggestion of the usual mud-flavoured varieties of Borneo. It will remain wholesome three days, and whenever necessary the bamboo is heated at the bottom. One who has tasted meat or cereals cooked between hot stones in earth mounds knows that, as regards palatable

cooking, there is something to learn from the savages. It is a fact that Indians and Mexicans prepare green corn in a way superior to that employed by the best hotels in New York. There is no necessity of returning to the bamboo and hot stones as cooking utensils, but why not accept to a greater extent the underlying principle of these methods?

In the evening we arrived at Long Pelaban, a large Kenyah kampong, where for some time I made my headquarters. On the opposite bank of the river we cut the tall grass and jungle and made camp. Soon we were visited by many small boys who afterward came every day to look for tin cans. With few exceptions they were not prepossessing in appearance; nearly all were thin, and one was deaf and dumb, but they were inoffensive and well-behaved. During my travels among Dayaks I never saw boys or girls quarrel among themselves—in fact their customary behaviour is better than that of most white children. Both parents treat the child affectionately, the mother often kissing it.

The sumpitan (blow-pipe) is found in his room, but the Kenyah usually prefers to carry a spear when he goes hunting. In his almost daily trips to the ladang he also takes it along, because instinctively mindful of enemy attacks. The Kenyahs are physically superior to the Kayans and the other natives I met, and more free from skin disease. They are less reserved than the Kayans, who are a little heavy and slow. In none of these tribes is any distrust shown, and I never saw any one who appeared to be either angry or resentful. Though the so-

called Dayaks have many traits in common, of them all the Kenyahs are the most attractive. They are intelligent and brave and do not break a contract; in fact, you can trust their word more completely than that of the majority of common white people. Neither men nor women are bashful or backward, but they are always busy, always on the move—to the ladang, into the jungle, building a house, etc. Murder by one of the same tribe is unknown and a lonely stranger is quite safe in the kampong, where they do not like to kill anybody.

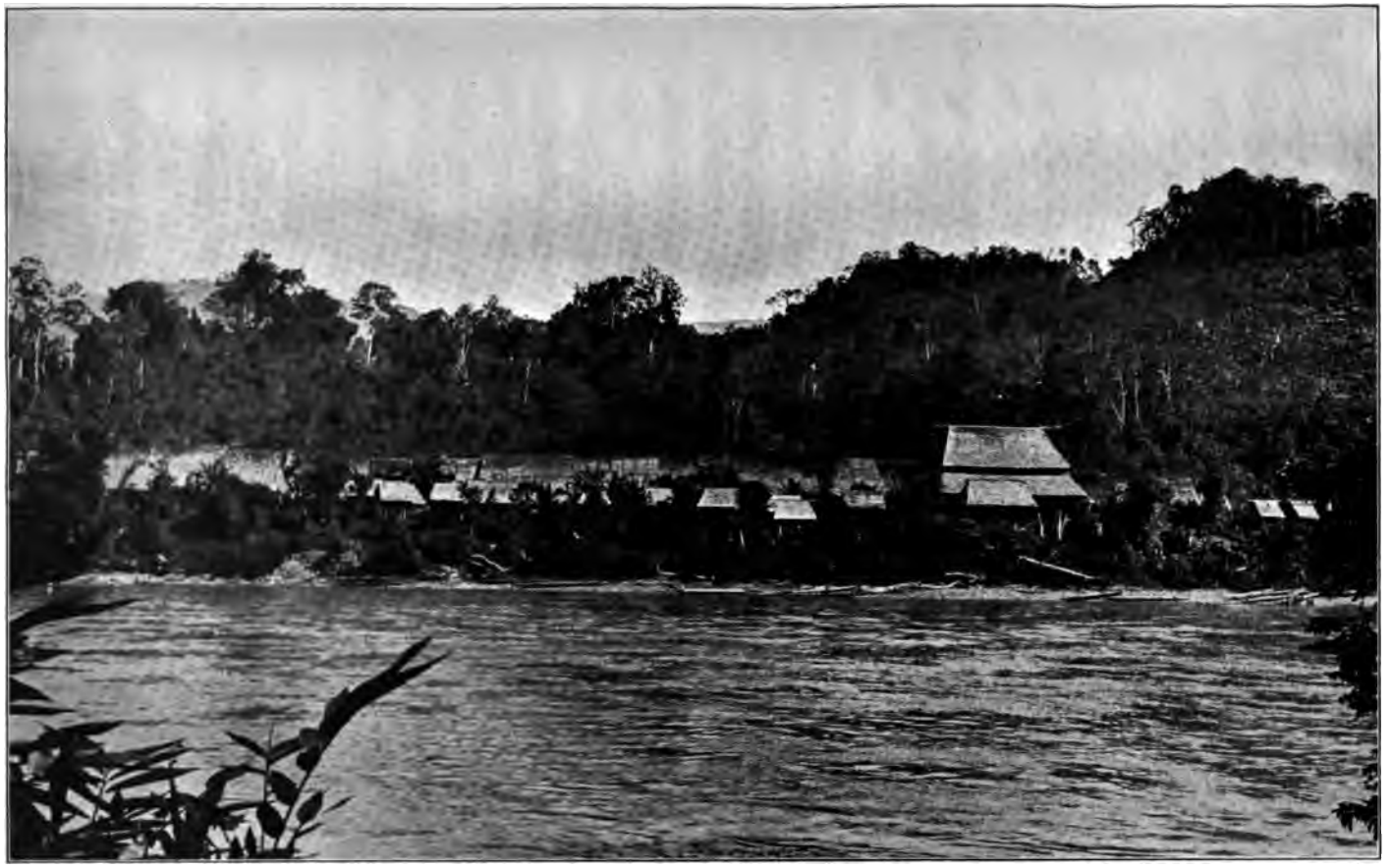
Among the Kenyahs and Kayans and many other tribes are found distinct social strata, upper, middle, and low. The first class ranks as a sort of nobility and until recent times had slaves, who were kindly treated. The members of the second class have less property, but they are active in blacksmithing, making prahus, determining the seasons by astronomical observations, etc. These well-bred Dayaks are truthful and do not steal. In their conception a thief will have to carry around the stolen goods on his head or back in the next life, forever exposed to scorn and ridicule. Third-class people are descendants of slaves and, according to the posthouder at Long Pangian, himself a Dayak, they are the more numerous on the Kayan River. These may tell lies, and ten per cent of them are apt to appropriate small articles, but they never steal money.

The Kenyah woman is most independent, and may travel unaccompanied by another woman with a party of men for days, sleeping aside, separate from the men. She and her husband both bring wood to the house and

KENYAHS STARTING IN THE MORNING FOR DISTANT APO KAYAN. LONG PANGIAN, KAYAN RIVER

A FUNERAL HOUSE. NEAR LONG PELABAN, KAYAN RIVER

Here rest the remains of a Kenyah chief and his wife



LONG PELABAN, A KENYAH KAMPONG, ON THE KAYAN RIVER

Two of the long, communal houses may be seen behind the storage sheds. The larger building is occupied by the kapala or chief

two who had danced for the kinematograph, had considerable charm of manner and personal attraction; it was a trifle disconcerting to find my belle a little later hunting the fauna of her lover's head. Her nimble fingers were deftly expert in the work and her beloved was visibly elated over the demonstration of her affection.

These natives do not tolerate hair on the body and pull it out or shave it off. The men even remove the hair at the edge of the scalp all around the head, letting the remainder attain a growth of about sixty centimetres, and this is tucked up in a coil under the cap. The hair of eyebrows and eyelids is removed with great care. The women perform this operation, and tweezers made for the purpose are usually seen among the ornaments that hang from the tops of their hats. I was told that people careful about their appearance have their eyes treated in this manner every ten or even every five days. It is a service which a young man's " best girl " is glad to perform and a couple thus engaged may often be seen. Truly the wiles of Cupid are many.

The Dayaks are fond of ornaments and the Kenyahs are no exception. The extraordinary number of large tin or brass rings worn in the vastly distended ear-lobe is well known and is the striking feature in the appearance of most tribes. I was told that among the Kenyahs the ear-lobes of children are pierced when the infant is seven days old. Especially the women of this and many other tribes carry this fashion to extremes, the lobe being so elongated that it may be twisted twice around the ear. The heavy weight of rings sometimes breaks the thin

band to which the lobe has been stretched. The men may also wear rings, though they remove them when going into the utan or to the ladang, and, although in this regard the males make less display than the females, in the wearing of valuable necklaces they excel them.

Necklaces of beads are worn by men, women, and children. When money is obtained by selling rubber to the Chinese, or by taking part in an expedition to New Guinea, there is much display of such ornaments, many of which are manufactured in Europe. But the Dayaks are extremely particular about the kind they buy; therefore it is useless to take beads out to Borneo without knowing the prevalent fashion. On the Kayan River a favoured style of bead is tubular in form, light yellow in hue, and procured from Bugis traders who are said to obtain their stock in New Guinea. Others of similar shape, but brown in colour, come from Sumatra.

When children are small they are carried on the backs of their mothers in a kind of cradle, the outside of which is often elaborately adorned with beads. The chief in Long Pelaban had one, the value of which I computed to be two thousand florins. The choicest beads are very old and have been kept for centuries in Borneo. Some are thought to be of Venetian origin, while others resemble a Roman variety. It is very difficult to induce the Dayaks to sell any of these, which they guard as precious heirlooms and the value of which they fully realize. According to Hose and McDougall, the wife of a rich chief in Sarawak may possess old beads to the value of thousands of pounds.

CHAPTER IX

HYDROPHOBIA—FUNERAL CEREMONIES—AT A PADDI HARVEST—ANOTHER TUBA-FISHING EXPEDITION—THE CHARM OF PRIMITIVE MAN—INTERESTING CEREMONIES—ON HEAD-HUNTING GROUND

HYDROPHOBIA was raging at Long Pelaban, and during my stay one man and seven children were bitten. For religious reasons the Dayaks do not like to kill dogs, so in cases like this the canines that are ill are caught, their legs are tied together, and they are thrown into the water to die without being killed. Over forty were disposed of in this way. I saw one of the hydrophobia victims standing in the water as if alive, a little of the back showing above the surface.

The sounding of a gong one day signified the death of a woman. A party immediately went out to procure a suitable tree from which to make the coffin. Throughout the night we could hear without intermission the sounds produced by those who hollowed out the log and smoothed the exterior. Next day I was present at the obsequies of the dead woman. On the large gallery men were sitting in two long rows facing each other, smoking their green-hued native tobacco in huge cigarettes, the wrappers of which are supplied by large leaves from two species of trees. A jar of native brandy stood between them, of which but little was consumed. More alcohol is made here from sugar-cane than from rice. The latter is the better and sweeter, the former being sour.

At the end of the gallery stood the large, newly made casket, which was open, the corpse covered with cloth resting inside. It was an oblong, heavy box supposed to represent a rhinoceros, though nothing positively indicated this except the large head of this animal at one end, which, though rudely made, was cut with considerable artistic skill. The family sat around the casket, one man smoking tobacco, the women wailing and occasionally lifting the cover to look at the face of the corpse. One babi (pig) that had belonged to the deceased had been killed and was served with rice. In the afternoon, having partaken of food, a number of men carried the heavy burden on their shoulders down to the river, preceded by two women belonging to the family. It was placed on two prahus, which were lashed together, and then taken down the river to be buried. After the death of a relative women mourners cut off about two centimetres from the end of the hair; the men cut an equal portion from the front.

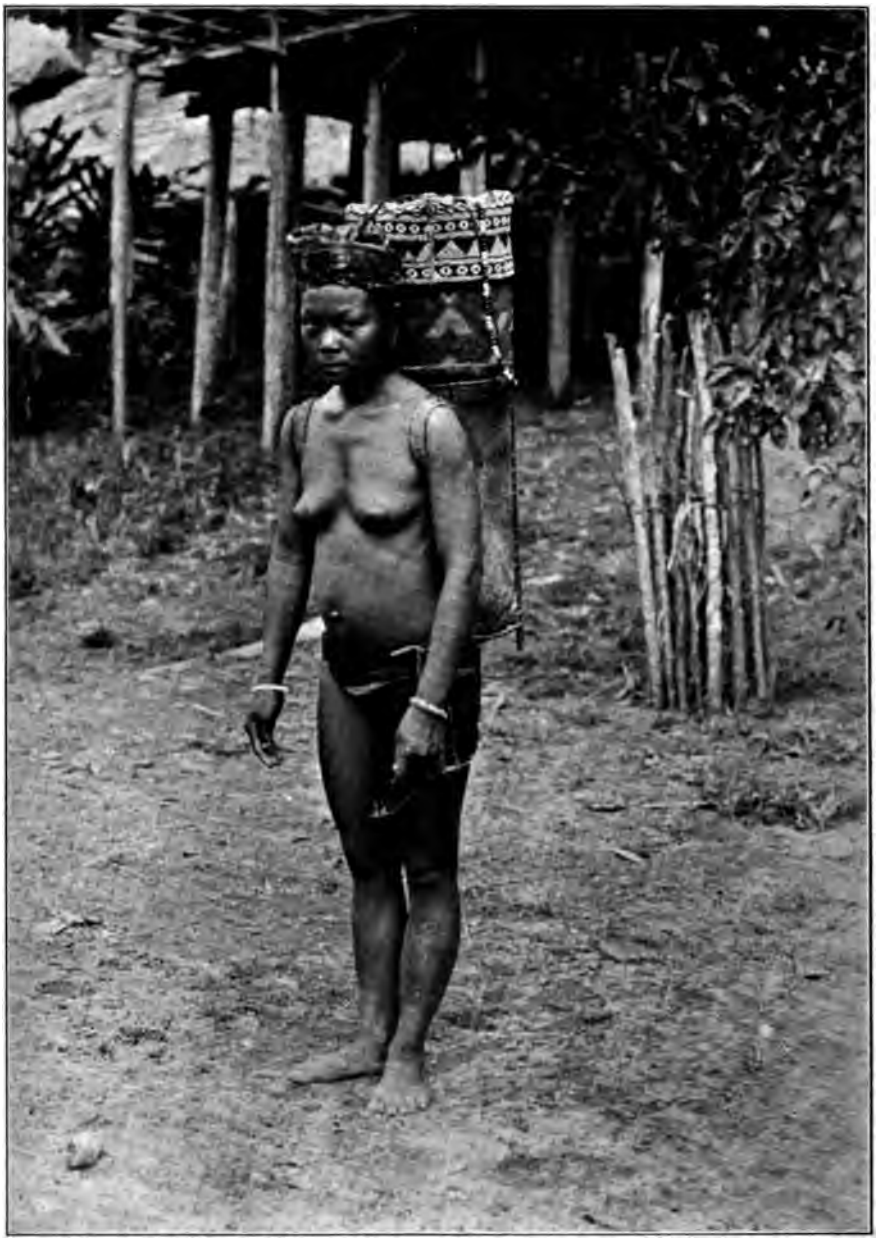
Later in the afternoon the gong announced another death, that of a child. On this account some sixty Malays who were camped here, bound for the utan higher up the river, in search of rubber and damar, delayed their departure as did some Kenyahs who were on their way to Apo Kayan, and the people of the kampong did not go to their ladangs. The following day the sound of the gong was again heard, but this time it was occasioned by the fact that an adept had taken augurs from the flight of the red hawk, and to him it was given that illness would cease.

It was difficult to hold the busy Dayaks in the kampong. At this time, the beginning of May, their attention was absorbed in harvesting the paddi. Every day they started up the river to their ladangs a few miles distant, returning in the evening with their crops. I decided to visit these fields, taking my cameras with me. In years gone by the kampong people have gradually cleared the jungle from a large tract of country, but part of this clearing was still covered by logs that had not been burned. Over these hundreds and hundreds of fallen trees, down steep little galleys and up again, a path led to the present fields higher up in the hills, very easy walking for bare feet, but difficult when they are encased in leather shoes. For over an hour and a half we balanced along the prostrate trunks, into some of which steps had been cut, but, arduous as was the ascent, we naturally found the descent in the evening a more hazardous undertaking; yet all emerged from the ordeal with sound limbs.

We arrived a little before noon and found some of the natives busy preparing their midday meal in and around a cool shed on top of a hill from where an extensive view was obtained of the past and present fields of the country. Near by was a watch-tower raised on top of upright logs. At one side of it four bamboos of different sizes were hanging horizontally over each other, which produced different notes when struck, and probably had been placed there for the purpose of frightening birds away.

The Kenyahs "take turns" helping each other to har-

KENYAH FATHER AND CHILD. LONG PELABAN, KAYAN RIVER



KENYAH WOMAN, WITH LARGE BASKET USED FOR CARRYING RICE. LONG PELABAN, KAYAN RIVER

vest, and on this occasion they were assisting their chief. It was a scene of much animation, as if it were a festival, which in reality the harvesting is to them. The long row of men and women in their best garments, with picturesque sun-shades, cut the spikes one by one, as the custom is, with small knives held in the hollow of their hands. Assuredly the food which they received was tempting to hungry souls. The rice, after being cooked, was wrapped in banana leaves, one parcel for each, forty-four in all, and as many more containing dried fish which also had been boiled. The people kindly acceded to my request to have them photographed. They then packed the harvested paddi in big baskets, which they carried on their backs to the storehouse in the kampong the same afternoon. From planting time till the end of the harvest—four or five months—a man is deputed to remain in the kampong to whom fish is forbidden, but who may eat all the rice he wants, with some salt, and as recompense for his services receives a new prahu or clothing.

A few days later, the chief having early in the morning taken omens from a small bird, the inhabitants with few exceptions departed on a tuba-fishing expedition to the Pipa, a small tributary to the Kayan River farther north. The two kampongs, Long Pelaban and Long Mahan, combined forces, and as so many were going I experienced difficulty in arranging to join the excursion, but finally succeeded in securing prahus and men from the latter place.

We passed a small settlement of Punans, former nomads, who had adopted the Dayak mode of living,

having learned to cultivate rice and to make prahus. We found the people of Long Pelaban camped on a stony beach in two long rows of rough shelters, each row containing many families under one common roof of bark. The Long Mahan people had gone farther and camped on a similar beach, and between the two I discovered a pleasant location in the jungle by ascending the high bank of the river. Hardly had we finished putting up our tents when a violent thunder-storm arose, which continued unabated for half an hour, and thereafter with diminished force throughout the night. Many of the Dayaks moved up to our position, and next day the river ran high, so we did not make a start.

In the morning, after a fine bath, as I was about to take breakfast, a large party of visitors from Long Mahan approached. They were unacquainted with the Malay tongue and showed obvious signs of embarrassment, but by distributing a little candy to the children and biscuits to the adults harmony was soon established. Two unusually attractive small girls wearing valuable bead necklaces, who at first had appeared takut (frightened), unconcernedly seated themselves on their heels in front of me. The others perched in a long row on two poles which they laid on the wet ground, all of them preparing to watch me eat breakfast. Among other things the menu included half a dozen small boiled potatoes brought from Tandjong Selor and obtained from Central Java; they usually keep for four or five weeks and are a valuable aid in maintaining good health in the tropics.

The Kenyahs had never seen potatoes before, and one

A KENYAH'S SWEETHEART REMOVING HIS EYEBROWS AND EYELASHES. LONG PELABAN, KAYAN RIVER

WRESTLING. LONG PELABAN, KAYAN RIVER

This is a favourite pastime with the Kenyahs, Oma-Sulings and other tribes

KENYAH GIRL, IN A WOMAN'S USUAL ATTIRE. LONG PELABAN, KAYAN RIVER

man handed some of the peelings to his wife for inspection, whereupon I gave her a potato, which she peeled carefully, divided, and gave a piece to each of the two children, with whom, however, it did not find favour. I opened a can of milk and another of cream, for I was fresh from Europe and had plenty of provisions. After helping myself from the cans I gave them to the children, who greatly relished what was left in them, but they did not eat greedily, behaving like white children who have not learned from adults to eat hastily. The Kenyahs are very courteous. When a man passed my tent opening he generally called aloud, as if announcing his presence.

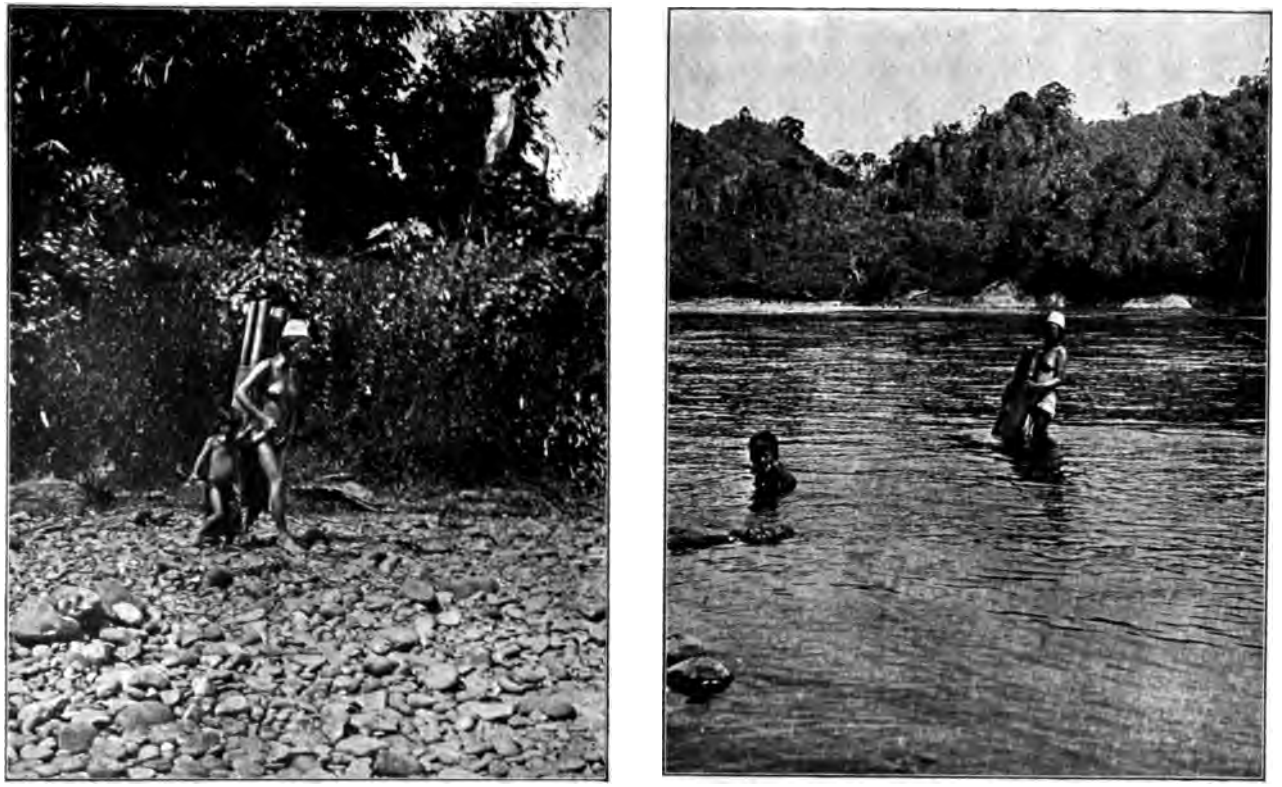
In visiting the camps I found the Kenyahs, even on an occasion like the present, busily engaged at some occupation, and seldom or never was anybody seen sitting idle. The men were splitting rattan into fine strings, later to be used for many purposes: for plaiting the sheath of the parang; for making bottle-shaped receptacles for rice; for securing the axe to the handle, etc. Women were doing the same work with bamboo, first drying the stalks by standing them upright before a fire. These fine bamboo strings are later used in making winnowing trays and for various kinds of beautifully plaited work. When employed in this way, or on other occasions, the women smoke big cigarettes as nonchalantly as the men.

Continuing the journey next day, we found it a laborious undertaking over many small rapids. The water had already subsided, so we had to wade most of the day, dragging the prahus, a task which we found rather fatiguing, as the stones are difficult to step on in the

water and very hot out of it. The river was narrow, but here and there widened out into pools. Many "bring" were erected over the stream, and I noticed that they were smaller than those I had seen before, but the arrangements for beating the tuba were far more elaborate.

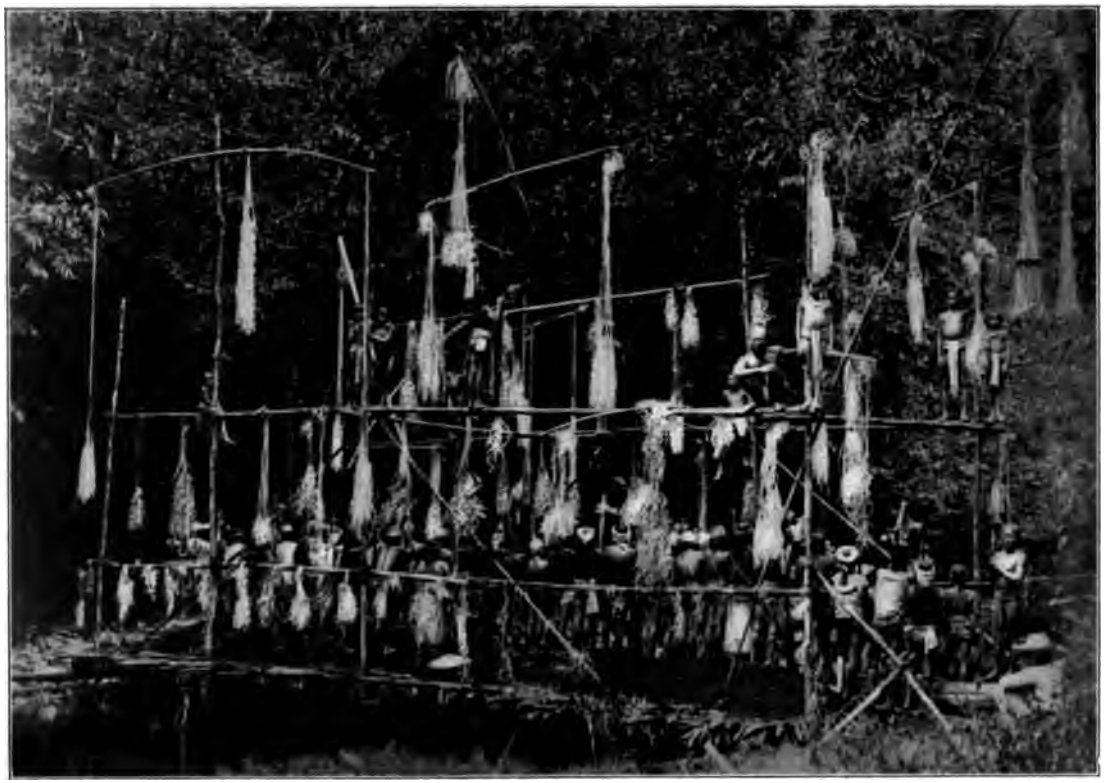
On the river bank, as we approached the main camping-place, piles of the light-brown root were often seen, resembling stacks of wood. The gathering of these roots, I learned, was accomplished in one day. Our men had helped in the work and they also put up a couple of "bring" near our camp for our own use. Early in the afternoon two rather solid structures, built like bridges across the small river, were erected; on these the beating of the tuba was to take place next morning. In the middle, lengthwise, was placed a long, narrow excavated log, longer than the bridge itself, for the use of the beaters.

In the evening a large tree crashed to earth not far from my camp, and at a later hour another, still nearer, thunderously broke with its fall the silence of night. At two o'clock in the morning the beating of tuba began, to the accompaniment of shouts and outcries, and though the noise was considerable and unusual I did not find it intolerable, but fell asleep again. I arose early, and after partaking of some excellent Dayak rice I walked down to view the proceedings, and found the scene engrossing. Men and women stood close together on each side of the long trough, crushing the tuba with sticks in a similar manner to that adopted when pounding rice. The trough had at one end a small compartment, open like the rest, but the sides had been smoothed with an



KENYAH MOTHER AND CHILD, ON THEIR DAILY TRIPS TO THE LONG PELABAN, KAYAN RIVER

Dayak women usually go three times a day to fetch water, and utilize the opportunity for a bath



TUBA FISHING, AT THE PIPA RIVER

Amban Klesau's bridge, showing the tuba bark, which previously had been pounded, and then tramped upon by the feet of the natives

axe and when beaten served the purpose of a gong. The bark was pounded into small pieces and then thrown to one side upon large palm leaves which covered the bridge.

Boarding a prahu, I next visited Amban Klesau's bridge, a little lower down, which was larger and more pretentious, with tall poles erected on it, and from the top hung ornamental wood shavings. The end of the trough here had actually been carved into a semblance of the head of "an animal which lives in the ground," probably representing a supernatural being usually called nagah. The owner himself was beating it with a stick on both sides of the head, and this made more noise than the pounding of the fifty men and women who stood working at the trough. At times they walked in single file around it.

The pounding was finished in the forenoon, and all went a little farther down the river to take the fire omen at a place where the river widened out into a pool. A man with many tail-feathers from the rhinoceros hornbill (*buceros rhinoceros*) stuck into his rattan cap seated himself on a crude platform which had been built on upright poles over the water. Some long pieces of tuba-root were lying there, and he squatted on his heels facing the principal men who were sitting on the bank south of him.

A few minutes later the chief of Long Mahan made his way out to the platform over some logs which loosely bridged the space to the bank of the river, and attempted the fire-making, but after two unsuccessful attempts he retired. Several other prominent men came and tried, followed by the man with the tail-feathers in his cap,

but he also failed; whereupon they all stepped ashore, taking the fire-making implements and some of the roots with them, in order to see whether they would have better luck on land. The brother of the chief now came forward and made two attempts, with no more success than the others. Urged to try again, he finally succeeded; the assemblage silently remained seated for a few minutes, when some men went forth and beat tuba with short sticks, then threw water upon it, and as a final procedure cast the bark into the river and again beat it. From the group of the most important people an old man then waded into the water and cast adrift burning wood shavings which floated down-stream.

In the meantime the Long Mahan people had gone to throw the bark into the river from their elaborate bridge, and those of Long Pelaban went to their establishments. The finely pounded bark soon began to float down the river from the bridges as it might were there a tannery in the neighbourhood. Presently white foam began to form in large sheets, in places twenty-five centimetres thick and looking much like snow, a peculiar sight between the dark walls of tropical jungle. Above the first little rapid, where the water was congested, a portion of the foam remained like snow-drift, while most of it continued to advance and spread itself over the first long pool. Here both men and women were busily engaged catching fish with hand-nets, some wading up to their necks, others constantly diving underneath and coming up covered with light foam.

The insignificant number of fish caught—nearly all

of the same kind—was surprising and disappointing. Even small fish were eagerly sought. There was little animation, especially at the beginning of the sport, and no spears were used. Several tons of bark must have been utilized, at least eight or ten times as much as at the Isau River, and I regretted that they should have so little reward for their trouble. Five days were spent in travel, two days in making "bring" and gathering tuba, and they had pounded tuba for eight hours, since two o'clock in the morning. After all these exertions many prahus must have returned without fish. Possibly the fish had been practically exterminated by the tuba poisoning of former years. One man told me that many fish remain dead at the bottom, which partly accounts for the scanty result.

I was desirous of having Chonggat remain here for a week of collecting, but no Kenyah was willing to stay with him, all being deterred through fear of Punan head-hunters, who, on this river, not so long ago, had killed some rubber-gatherers from Sarawak. Besides, they also anticipated revenge on the part of Kayans, eleven of whom had been killed by the Kenyahs in Apo Kayan one and a half years previously. According to their own reports and that of the Chinese interpreter, the heads of six men and five women had been taken after a successful attack on the two prahus in which the Kayans (Oma-Lakan) travelled. The Kenyahs (Oma-Kulit) who had committed the outrage had been apprehended by the Company, as the government is called by the natives. The brother of the chief of Long Pelaban, who was with us

fishing, three months previously had returned from Samarinda, where he had spent one year in prison for having been implicated in a minor way in this crime, while the main offenders were serving labor terms of six years in Sorabaia, Java.

This report was confirmed by a Dutch officer whom I met a month later and who came from Apo Kayan. The attacking Kenyahs were eighty in number, of whom ten were punished. The affair took place in 1912 at a distance of six hours, going down-stream, from Long Nawang. Though head-hunters are known to travel wide and far, and distant Apo Kayan is not too remote for them, nevertheless to me, as well as to Chonggat, the risks seemed unfounded; however, there remained no alternative but for all of us to return to Long Pelaban.

CHAPTER X

IN FOG AND DARKNESS—A RAID BY ANTS—DEPARTURE FROM LONG PELABAN—AN EXCITING PASSAGE—RETURN TO TANDJONG SELOR

DURING April and the first half of May the weather was warm with very little rain, though at times thunder was heard at a distance. But during the second half of May thunder and lightning in the evening was the usual occurrence, with an occasional thunder-clap at close quarters. At night it rained continually though not heavily, but this was accompanied by a dense fog which did not clear away until nine o'clock in the morning. When the dark clouds gathered about sunset, it was not with exactly cheerful feelings that I anticipated the coming night. My tent stood at a little distance from the rest of the camp, for the reason that solitude at times has its charms. When the lamp outside the tent door was extinguished, and all was enveloped in darkness and fog to an overwhelming degree, a feeling of loneliness and desolation stole over me, though it soon left me when I thought of the glories of the coming day, when all the rain would be forgotten.

Shortly after sunset one evening scores of thousands of ants descended upon me while supper was in progress. In the dim light afforded by the lamp I had not perceived their approach until I felt them around my feet. Upon looking about, I discovered to my astonishment that the

floor, which had a covering of closely set bamboo stalks, was black with ants and that regiments of them were busily climbing up my bed. Coming in such immense numbers and unannounced, their appearance was startling. Outside the soil seemed to move. Twice before I had received visits from these ants but had prevented their entering the tent by pouring hot water over them. The pain caused by their bite is severe, although of short duration, and they are therefore feared by the Dayaks and Malays.

By liberal application of hot water and burning paper on the ground we finally succeeded in driving the unwelcome visitors out of the tent; but new hordes were constantly arriving, and we battled for two hours before I could retire, carrying many bites as souvenirs. None were then in the tent and next day not a trace of them remained. The Chinese photographer had been there twenty minutes before the raid began and had not noticed even one ant. The attack began as suddenly as it ceased.

My stay on the Kayan River had been interesting as well as profitable. Twice during that period requests had come from the government for Dayaks willing to join a Dutch enterprise operating in northern New Guinea, and the chances of my securing sufficient men on this river for my expedition were evidently gone. However, with the assistance of the government I felt sure there would be no difficulty in securing them from other rivers of Dutch Borneo, but I deemed it wise to begin my return trip.

The river was now so swollen that it was difficult to

KENYAH READY FOR A TRIP TO THE LADANG (FIELDS). LONG PELABAN, KAYAN RIVER

He is a brother of the chief. Such trips are undertaken almost daily

CHAPTER XI

DEPARTURE FOR BANDJERMASIN—A PLEASANT STEAMSHIP LINE—TWO HEAD-HUNTERS—AN EXPEDITION TO LAKE SEMBULO — SAMPIT — THE ORANG-UTAN — STORMY WEATHER—A DISAGREEABLE RECEPTION

In Tandjong Selor I was exceedingly busy for three days getting boxes and packing the collections, and early in June I departed for Bandjermasin, on S. S. *De Weert.* It has been my fortune to travel much on the steamships of the Royal Packet Boat Company, which controls the whole Malay Archipelago from Singapore to New Guinea and the Moluccas. It is always a pleasure to board one of these steamers, as the officers are invariably courteous, and the food is as excellent on the smaller steamers as on the large ones. The same kind of genuine, good claret, at a reasonable price, is also found on all of them, and it may readily be understood how much I enjoyed a glass of cool Margaux-Medoc with dinner, after over five months in the utan. The sailors on these steamers are Javanese. Those from Madurã, rather small men, made an especially good impression. A captain told me they never give any trouble except when on leave ashore in Sourabaia, where they occasionally remain overtime, but after a few days they come to the office and want to be taken on again. They are punished by having their wages deducted for the days they are absent, but the loss of coin does not trouble them much. If they have cigarettes and their meals they are happy, and they never accumulate money.

They are engaged for one year and some of them renew their contracts.

As we sailed southward from the Kayan River we were told of a French count who with his wife lived on an island three or four kilometres long, near the coast. At first he had fisheries and sold dried fish, which, with rice, forms the staple food of the natives of Borneo and other countries of the East. He was enabled to change his business into cocoanut plantations, which to-day cover the island. According to report they dressed for dinner every day, to the end that they might not relinquish their hold upon the habits of civilised society. Later I learned that when the war broke out the count immediately went to France to offer his services.

Lieutenant C. J. La Riviere came aboard in Samarinda, en route to Holland for a rest, after being in charge of the garrison at distant Long Nawang in Apo Kayan. There are 40 soldiers, 2 officers, and 1 doctor at that place, which is 600 metres above sea, in a mountainous country with much rain, and therefore quite cool. In a single month they had had one and a half metres of rain. Officers have been known to spend three months in going from Long Iram to Apo Kayan, travelling by prahu almost the whole distance. Usually the trip may be made in a couple of months or less. The river at last becomes only four metres broad, with very steep sides, and in one night, when it rains copiously, the water may rise five to six metres. Mail usually arrives three times a year, but when the lieutenant boarded the steamer he had not seen a newspaper for five months.

He expressed his opinion that the government would find it extremely difficult to stamp out head-hunting in Apo Kayan, with its 15,000 Dayaks, because the custom is founded in their religious conception. "Our ancestors have always taken heads," they say; "we also do it, and the spirits will then be satisfied. We have learned it from our ancestors, who want us to do it." "They often ask us," the lieutenant said: "When are you going to leave Long Nawang? When you are gone then we will again take up the head-hunting." These same Kenyahs are entrusted to go to Long Iram to bring provisions to the garrison. About eighty of them are sent, accompanied by only two soldiers, and after three months' absence the goods arrive safely at Long Nawang.

On board the steamer were also two Punan head-hunters from the interior who were being taken to Bandjermasin under the guard of two soldiers. They had been caught through the assistance of other Punans, and in prison the elder one had contracted the dry form of beri-beri. He was a pitiful sight, in the last stage of a disease not usually found among his compatriots, no longer able to walk, looking pale and emaciated and having lost the sight of his right eye. They had rather wild but not unpleasant faces, and were both tatued like the Kenyahs. Their hair had been cut short in the prison. I later took the anthropometric measurements of the young man, who was a fine specimen of the savage, with a splendid figure, beautifully formed hands and feet—his movements were elastic and easy.

As it had been found impossible to secure Dayaks in

the Bulungan for my expedition to New Guinea, the resident courteously offered to get eighty men from the Mahakam River. This would take at least two months and gave me opportunity to visit a lake called Sembulo, a considerable distance west of Bandjermasin. It was necessary first to go to Sampit, a small town, two days distant, on a river of the same name, where there is a controleur to whom the resident gave me an introduction, and who would be able to assist in furthering my plans. I could not afford to wait for the monthly steamer which touches at Sampit on its way to Singapore, so I arranged to make the trip on board an old wooden craft which was under repairs in Bandjermasin, and in the afternoon of June 5 we started.

The steamer was small, slow, and heavily laden, so it was not a very pleasant trip. As we sailed down the great Barito River on a dark and cloudy evening, from the deck, which was scarcely a metre above the muddy water, one might observe now and then floating clumps of the plants that thrive so well there. On approaching the mouth of the river the water, with the outgoing tide, became more shallow. The Malay sailor who ascertained the depth of the water by throwing his line and sang out the measures in a melodious air, announced a low figure, which made the captain stop immediately. The anchor was thrown and simultaneously a great noise of escaping steam was heard. Before the engine-room the sailors were seen trying to stop the steam which issued, holding sacks in front of them as a protection against being scalded. Coupled with my observation that there were no life preservers in

my little cabin, nor anywhere else, the situation appeared disquieting, but the captain, a small-sized Malay and a good sailor, as all of that race are, reassured me by saying that it was only the glass for controlling the steam-power that was broken. After a while the escape of steam was checked and a new glass was put in.

The old craft kept up its reputation for rolling excessively, and I was glad when finally we entered the smooth waters of the Sampit River. We stopped for a couple of hours at a small kampong, where I made the acquaintance of a Polish engineer in the government's service, who was doing some work here. He told me that thirty years ago, in the inland country west of Kotawaringin, he had seen a young Dayak whose chest, arms, and legs, and most of the face, were covered with hair very similar in colour to that of the orang-utan, though not so thick. The hair on his face was black, as usual. There were no Malays at that head, but many Dayaks. I have heard reports of natives in the Schwaner mountains, who are said to have more hair on the body than Europeans, of a brownish colour, while that on the head is black. Controleur Michielsen,* in the report of his journey to the upper Sampit and Katingan in 1880, describes a certain Demang Mangan who had long, thin hair on the head, while on the chest and back it was of the same brown-red colour as that of the orang-utan. His arms were long, his mouth large and forward-stretching, with long upper lip, and his eye glances were shy. Among the Dayaks he was known as mangan (red).

*Controleur W. J. Michielsen, *Verslag einer Reis door de boven distrikten der Sampit en Katingan rivieren in Maart en April*, 1880.

About noon we arrived at Sampit, a clean, attractive village situated on slightly higher ground than is generally available on Bornean rivers. The stream is broad here, having almost the appearance of a lake. As is the custom, a small park surrounds the controleur's residence, and in the outskirts of the town is a small, well-kept rubber plantation belonging to a German. Sampit is a Katingan word, the name of an edible root, and according to tradition the Katingans occupied the place in times long gone by.

The weather was remarkably dry, so that the tanks at the corners of the controleur's house, on which he depended for water, were becoming depleted. When the fruits of the utan are ripe, the orang-utan may at times be heard crying out in the neighbourhood, but on account of the dry weather they had retired deeper into the jungle. Chonggat shot only one, which was but half-grown and easily killed by a charge of shot. It is often difficult to discover an orang-utan because he has a knack of hiding himself where the foliage is densest, and if alarmed will proceed along the branches of tall trees and thus disappear from sight.

This intelligent, man-like ape is probably not so common in Dutch Borneo as he is supposed to be. Mr. Harry C. Raven, who collected animals in the north-eastern part, told me that in a year he had shot only one. The orang-utans are generally found in Southern Borneo and do not go very far inland; in Central Borneo they are extremely rare, almost unknown. It is to be hoped that these interesting animals will not soon be ex-

metre deep. The route is at present marked out, but in bygone years many ships were wrecked here.

As the sea became more shallow the yellow-crested waves of dirty water mixed with sand assumed an aspect of fury, and lying on my back I seemed to be tossed from one wave to another, while I listened with some apprehension to the melodious report of the man who took the depth of the water: "Fourteen káki" (feet)! Our boat drew only six feet of water; "Seven káki," he sang out, and immediately afterward, "Six káki!" Now we are "in for it," I thought. But a few seconds more and we successfully passed the dangerous bar, the waves actually lifting us over it. My two assistants had spent the time on top of the baggage and had been very seasick. We were all glad to arrive in the smooth waters of the river. The captain, with whom later I became well acquainted, was an excellent sailor, both he and the crew being Malays. It was the worst weather he had experienced in the two years he had been at Sampit. According to him, conditions in this part of Borneo may be even more stormy from August to November.

In the Malay kampong, Pembuang, I procured a large pomelo, in Borneo called limao, a delicious juicy fruit of the citrus order, but light-pink inside and with little or no acidity. After the exertions of the night this, together with canned bacon, fried and boiled potatoes, furnished an ideal midday meal. Necessary repairs having been made to the engine, next day, on a charming, peaceful afternoon, we continued our trip up the river. An unusually large number of monkeys were seen on both

sides, and the men sat on the railing, with their feet hanging outside, to look at them. The red, long-nosed variety did not retreat, but looked at us calmly from the branch where it sat; other species hurried off, making incredibly long leaps from branch to branch. Shortly after sunset we threw anchor.

Lake Sembulo is about sixteen kilometres long by about one in width. The lake is entered suddenly, amid clumps of a big species of water plant which in season has long white odoriferous flowers. Very striking is the white bottom and the beaches consisting of gravel or sand. How far the sandy region extends I am unable to say, but Mr. Labohm, the chief forester, told me that in the Sampit River region northeast of here, and about twenty metres above the sea, he walked for two days on whitish sand, among rosaceæ and azale, the forest being very thin. The comparatively clear water is slightly tinged with reddish brown on account of its connection with the Pembuang River, which has the usual colour of Bornean rivers. Low receding hills rise all around as we steam along, and the utan, which more or less covers the country, looks attractive, though at first the forests surrounding the ladangs of the Malays are partly defaced by dead trees, purposely killed by fire in order to gain more fields.

After a couple of hours we arrived at kampong Sembulo, which has an alluring look when viewed from the lake, lying on a peninsula with handsome trees which mercifully hide most of the houses. The kapala of this Malay settlement, who came on board in a carefully laundered white cotton suit, had courteous manners.

He kindly arranged for three prahus to take us and our belongings ashore.

There was a diminutive pasang-grahan here, neatly made from nipah palm leaves, where I repaired, while Chonggat and Ah Sewey put up tents near by. The presence of two easy chairs which had been brought from Bandjermasin seemed incongruous to the surroundings, and had an irritating rather than restful effect on me. Both Malays and Dayaks are very desirous of securing European furniture for the house of the kapala, and will carry a chair or table for hundreds of miles. On the occasion of my visit to the Kenyah chief of Long Pelaban, in the Bulungan, he immediately went to a heap of baskets and other articles occupying one side of the big room, dug out a heavy table with marble top, which was lying overturned there, and proudly placed it upright before me to be admired. That this piece of furniture had been brought so great a distance over the kihams was almost incomprehensible.

I had a talk with the kapala and a large number of people who soon gathered in front of the pasang-grahan. The Dayaks who originally lived here have disappeared or amalgamated with the Malay intruders, who in this case are largely composed of less desirable elements. It soon became evident that no information could be gained from these people in regard to the traditions of the place. One man said that if I would wait four or five days (in which to be exploited by the wily Malay) he would undertake to bring me three old men of the place, whereupon the kapala, who was more obliging than the rest, went to fetch

one of these, who pretended to have no knowledge in such matters.

In order to get relief from the increasing throng of men and boys, I went for a walk, in which I was joined by the kapala and the mantri, a small native police authority whom the controleur had sent with me to be of assistance in making arrangements with the Malays. An old-looking wooden mosque, twenty years old according to reports, stands at the turn of the road. Near by is a cemetery covered with a large growth of ferns and grass, which hides the ugly small monuments of the graves. The houses lie along a single street in the shade of cocoanut-palms and other trees. On account of the white sand that forms the ground everything looks clean, and the green foliage of handsome trees was superb. Everywhere silence reigned, for the women, being Mohammedans, remain as much as possible inside the houses, and no voice of playing or crying child was heard.

On returning from our walk, near sunset, I asked the kapala how much I had to pay for the bringing ashore of my baggage. "Fifteen rupia" (florins) was the answer. As things go in Borneo this was an incredibly excessive charge, and as my intention was to go by boat to the Dayak kampong on the lake, and from there march overland to the small river, Kuala Sampit, I demanded to know how much then I would have to pay for twenty men that I needed for the journey. "Five rupia a day for each," he said. Dayaks, who are far more efficient and reliable, are satisfied with one rupia a day. Those near by protested that it was not too much, because in gathering

rubber they made even more a day. At that rate it would have cost me a hundred florins a day, besides their food, with the prospects of having strikes for higher pay all the way, according to the Malay custom.

Luckily the *Selatan* had delayed its departure until next morning, so I was not yet at the mercy of the greedy natives. The kapala seemed to have as little influence with the people as the mantri, who plainly was afraid of them. I got a prahu and went out to the captain, who arranged to take us back next day, away from these inhospitable shores. At dusk he accompanied me ashore, and in a refreshingly courageous manner read them the text, telling them that I, who came recommended from the Governor-General, was entitled to consideration; that it was a disgrace to the Malay name to behave as they had done, etc. While I was eating my evening meal two long rows of men were sitting outside on the ground, watching the performance with close attention.

Next morning the *Selatan's* boat came to assist in bringing us on board again. After the captain's severe arraignment last night the mantri seemed to have spurred up his courage. He said that two rupia would be sufficient to pay for our luggage. I gave one ringit (f. 2.50), which the captain said was ample. The kapala, who had exerted himself to get our things on board again, thanked me for the visit and we steamed away, arriving safely in Sampit a couple of days later.

CHAPTER XII

THE WAR CHANGES MY PLANS—CHOLERA—UP THE GREAT BARITO RIVER — PURUK TJAHU — DECIDE TO STAY AMONG THE MURUNGS—A DANCING FEAST

In the beginning of July I returned to Bandjermasin, where I packed my collections and despatched them to Europe. I decided to send what goods I had, with my two assistants, to Macassar on Celebes, where the Dayaks who were to take part in the New Guinea undertaking would also be transported. It might be possible for Chonggat to do some collecting in the neighbourhood of the town. At all events, it would be more convenient to have them wait for me there than to take them to Java. Having secured passes from the resident for the two men, and given them recommendations to the Norwegian consul in Macassar, I departed for Batavia to take the last steps in fitting out my expedition to New Guinea.

At this stage of my proceedings the war broke out. On August 6 I had an audience of the Governor-General, who informed me that he was then unable to let me have either soldiers or ship for my explorations. The day before he had recalled his own great expedition on the Mamberamo in Northern New Guinea, and advised me to wait for a more favourable opportunity, promising that he would later give me all assistance. The commanding general was equally agreeable. As I had never been in British India I decided to go there while awaiting developments regarding the war, so the following Saturday

found me on my way to Singapore. Here I first arranged for the safe return of my two assistants, who had been left in Macassar, where cholera had broken out. Usually natives, who range under the category of labourers, go as deck-passengers on steamers in the East. Therefore, after I had bought second-class tickets for them, and the Dutch Packet Boat Company had courteously offered to have a man meet them on arrival, I felt satisfied that they would have no trouble in landing. I then continued my journey over Penang to Madras.

In spite of the continuation of the war and the great fascination of India, in April, the following year, 1915, I decided to return to the Dutch Indies and undertake an expedition to Central Borneo, parts of which are unexplored and unknown to the outside world. Briefly, my plans were to start from Bandjermasin in the south, ascend the Barito River, and, branching hence into its northern tributary, the Busang, to cross the watershed to the Mahakam or Kutei River. Following the latter to its mouth I should reach the east coast near Samarinda. This journey, I found, would take me through a country where were some tribes never before studied.

At Colombo I took the Dutch steamer *Grotius*, which gave me a very pleasant week. The Dutch are a kindly nation. There were fifteen children on first-class playing on deck, and I never heard them cry nor saw them fighting. After more than nine months' absence I again found myself in Batavia, and from there I went to Buitenzorg to ask an audience of the Governor-General. He offered to give me all assistance in furthering my project,

and I had the pleasure of being invited to dine at the palace. A large open carriage, with quaint, old-fashioned lanterns, called for me. The coachman and footman were liveried Javanese. It was a beautiful, cool, starlit evening in the middle of June when we drove up the imposing avenue of banyan-trees which leads to the main entrance. The interior of the palace is cool and dignified in appearance, and the Javanese waiters in long, gold-embroidered liveries, whose nude feet passed silently over the marble floor, were in complete accord with the setting.

Several weeks had to be spent in preparation for the trip. It was decided that in Borneo I should be furnished with a small escort. Further, Mr. J. Demmini, photographer in the well-known Topografische Dienst in Batavia, was attached to the expedition, as well as Mr. H. P. Loing, a native surveyor of the same institution. After much searching I finally found a man, Rajimin, a native of Batavia, who seemed competent to collect birds and animals. My kinematograph was out of order, but fortunately I succeeded in replacing it with a second-hand Pathé. The first week in August we departed from Tandjong Priok by steamer, bound for Bandjermasin, Borneo.

On our arrival in Sourabaia we learned that cholera was prevalent in Bandjermasin, and our steamer carried serum for the doctors of the garrison there. Early in the morning we steamed up the river, viewing the usual scene of Malays bathing and children running out of the houses to see the steamer pass. The most urgent matter demanding attention was to have Rajimin, the taxidermist,

vaccinated, as well as the two native boys I had brought from Batavia. There were nine deaths a day, but while it is unpleasant to be at a place where such an epidemic is raging, there is reassurance in the knowledge that the bacillus must enter through the mouth, and that therefore, with proper precautions, it is unnecessary for anybody to have cholera.

A Dutch doctor in Sourabaia told me that he had been practising two years on the Barito River in Borneo, and had gone through a severe epidemic of cholera, but neither he nor his wife had been affected, although their native boy, while waiting at table, fell to the floor and in two hours expired. His wife disinfected plates, forks, spoons, and even the fruit, in a weak solution of permanganate of potassium. Of course there must be no alcoholic excesses. In the tropics it is also essential, for several reasons, always to boil the drinking water.

The Dutch use an effective cholera essence, and if the remedy is applied immediately the chances for recovery from the attack are favourable. The lieutenant who accompanied me through Central Borneo told me that he saved the life of his wife by immediately initiating treatment internally as well as by bathing, without waiting for the doctor's arrival, for the attack occurred in the middle of the night. After three or four hours she was out of danger. One evening at the Bandjermasin hotel I was startled by seeing our three Javanese men taking a sudden and determined departure, carrying all their belongings. One of the hotel boys who occupied the room next to them had shown the well-known symptoms of

cholera, whereupon they immediately decamped. I at once informed the manager, who gave the boy a dose of cholera essence, and an hour later he was better. The next morning he was still improving, and on the following day I saw him waiting at table.

The resident, Mr. L. F. J. Rijckmans, was kind enough to order the government's good river steamer *Otto* to take us up the Barito River to Puruk Tjahu, a distant township, where boats and men might be secured and where the garrison would supply me with a small escort. Toward the end of August we departed. On account of the shallow water the *Otto* has a flat bottom and is propelled by a large wheel at the stern. We had 5,000 kilograms of provisions on board, chiefly rice and dried fish, all stored in tin cans carefully closed with solder. There were also numerous packages containing various necessary articles, the assorting of which would be more conveniently done in Puruk Tjahu. We also brought furniture for a new pasang-grahan in Muara Tewe, but the steamer could have taken much more.

The evening of our departure was delightful, and a full moon shed its light over the utan and the river. I occupied a large round room on the upper deck, and felt both comfortable and happy at being "on the move" again. Anchoring at night, there are about five days' travel on the majestic river, passing now and then peaceful-looking kampongs where people live in touch with nature. A feeling of peace and contentment possessed me. "I do not think I shall miss even the newspapers," I find written in my diary.

On approaching Muara Tewe we saw low mountains for the first time, and here the river becomes narrower and deeper, though even at the last-named place it is 350 metres wide. The water assumed a deeper reddish colour and was speckled with foam, indicating a certain amount of flood caused by rains higher up the river. We passed a family of wild pigs grubbing up the muddy beach in search of roots. There was a large dark one and a huge yellowish-white one, besides four young pigs dark in colour. At Muara Tewe, where we had to make a stay of two days, the doctor of the garrison said that in the case of the common species of wild pigs the full-grown ones are always light in hue. Doctor Tjon Akieh, who came here from Surinam, had some amusing monkeys, a native bear, tamer than most cats, and a very quiet deer. In a steam-launch he had gone four days up the Ajo River, a tributary to the Barito from the east, which passes between limestone cliffs. In that locality the Dayaks are rarely visited by Malays and therefore have retained their excellent tribal characteristics. The men are inclined to obesity.

After leaving Muara Tewe we passed many small kampongs which were less attractive than those at the lower part of the river. The farther one proceeds the more inhabited are the banks. In this vicinity, eleven years previously, a violent Malay revolution which had lasted two years was finally suppressed. As usual, the revolt was headed by a pretender to the sultanate. The steamer in which we travelled was a reminder of those days, for it had two gun-mountings on its deck and my cabin, round in shape, was lightly armoured.

Puruk Tjahu (puruk = small hill; tjahu = running out into the water) lies at a bend of the river in a somewhat hilly and quite attractive country, which is blessed with an agreeable climate and an apparent absence of mosquitoes. The captain in charge of the garrison told me that he, accompanied by the native kapala of the district, was going on a two months' journey northward, and at his invitation I decided to follow him as far as Sungei Paroi. I hoped that on my return a supply of films and plates, ordered from London and already overdue, might have arrived. It was, however, a very difficult proposition to have everything ready in three days, because it was necessary first to take out of my baggage what was needed for the journey. It meant the opening of 171 boxes and packages. Convicts were assigned to assist in opening and closing these, which afterward were taken to a storehouse, but as I had no mandur I alone had to do the fatiguing work of going through the contents. The doctor of the garrison kindly furnished me with knives and pincers for the taxidermist, as the collector's outfit was missing from the boxes that had been returned from Macassar.

The *Otto* needed only one and a half hours to run down stream to the Muara Laong, a Malay kampong at the mouth of the river Laong, which we intended to ascend by boats to the kampong Batu Boa, where the overland journey was to begin. As soon as we arrived in the afternoon the kapala was sent for to help in procuring a sufficient number of prahus for the next day. I brought twenty-nine coolies from Puruk Tjahu to serve as paddlers. The kapala was unable to find enough prahus, but

returned, and all were quite friendly in their manners.

We asked the kapala if he could have the people dance in order that we might photograph them, but he said that would not be possible unless a feast were made, a necessary part of which would be the sacrifice of a babi (pig), whereupon an agreement was easily reached that I should pay for the babi six florins, and that the Murungs should perform. The feast was held one day later and was more interesting than I had expected. It took place in front of the house where the kapala resided, and here a sacred pillar stood, by the Katingans and others called kapatong, erected on the occasion of a death.

A striking feature in Dayak kampongs, especially in remote regions, is the presence of such upright pillars, carved more or less completely into human form and standing before the houses. These are invariably for the benefit of a dead person whom they guard, and if the deceased was well provided with earthly goods two or three are furnished. They are made of ironwood and often higher than a man, but usually only the upper part is actually worked into shape, though many instances are observed of smaller statues the entire surface of which is crudely carved. When a death occurs many duties are incumbent on the surviving relatives, one of the first being to make the kapatong, the soul of which waits on and guards the soul of the departed one.

A good-sized domestic pig had been brought in dependent from a long pole about which its feet had been tied, and it was deposited at the base of the kapatong.

SACRIFICING THE PIG AT THE FESTIVAL. TUMBANG MAROWEI

The wooden statue representing guardians of a deceased man may be observed

MURUNG WOMEN SQUATTING IN ORDER TO OBSERVE THE AUTHOR.
TUMBANG MAROWEI

MURUNG MAN AND WIFE. TUMBANG MAROWEI

One man held an upright stick between the legs of the animal, while another opened the artery of the neck with one thrust of his knife. The pig was next lifted up by the carrying-pole so that the blood might run into a vessel, which was handed to a man who climbed the kapatong and smeared blood on the image of a human being at the top. This indicated that the feast was for the benefit of the soul of that ironwood statue, because it is an invariable custom for the blood of a sacrificed animal to be smeared on the principals of any feast or ceremony, and this is also done when attempting to cure or ward off illness. The same custom obtains in the case of those about to be married; or, if children are to be named, if a move is made to a new home, blood is first daubed on the house.

The pig was then carried a little farther away, where the space was more favourable for dancing, which soon began to our edification. It was the same type of dance that is universal among the Dayaks wherever I have been, although other varieties are seen in Borneo. This principal one consists of moving in a circle around the sacrificial offering, which is lying at the foot of an upright rod to the top of which a piece of cloth is tied, or at the base of a sacred jar (blanga). The participants join hands, and the movement is slow because an essential feature consists in bending the knees—heels together—down and up again, slowly and in time; then, moving one step to the left and bringing right heel to left, the kneeling is repeated, and so on. The men danced for a long time, at first by themselves, then the women by themselves, but most of the time the circle was made up of alternate men

and women. The latter, most of them stocky and somewhat coarse-looking, danced with surprising excellence. Though children of nature may be without good looks, there is decided attraction in their grace and easy movements.

It did not look difficult, so I joined in the dancing, as I have done many times among other races. Greatly to the amusement of the natives I demonstrated that I had caught the right steps, and then seated myself in a chair which was the pride of the kapala and which had been brought out for my benefit. While watching the performance I was surprised to see two of the women, about the only ones who possessed any charm of appearance, coming toward me, singing as they advanced. Each took me by a hand and, still singing, led me forward to the dancing circle, where a man who had been offering rice brandy to the people from a huge horn of the water-buffalo adorned with wood shavings, stepped forward and offered it to me. Lifting it I applied my face to the wide opening as if drinking. Twice I pretended to drink, and after participating a while longer in the activities I retired to my place of observation.

No doubt the Dayaks had gladly acceded to my wishes in making the feast, because dancing and sacrifice are believed to attract good spirits which may be of assistance to them. In the evening there was a banquet with the pig as the pièce de résistance; and a young fowl was sent to me as a present.

CHAPTER XIII

DAYAK CURE OF DISEASE—EVIL SPIRITS AND GOOD—ANIMISM—BLIANS, THE PRIEST-DOCTORS—THE FEAST OF RUBBER-GATHERERS—WEDDINGS—IN PRIMITIVE SURROUNDINGS

A DAY or two later the kapala, evidently solicitous about our comfort, asked permission to perform for three consecutive nights certain rites for the purpose of curing several sick persons. The reason for his request was that they might be noisy and prove disturbing to our rest. The ceremonies consisted in singing and beating drums for three hours, in order to attract good spirits and drive away the evil ones that had caused the illness. One of the patients, who had malaria, told me later that he had been cured by the nightly service, which had cost him forty florins to the doctor.

Among the aborigines of Borneo whom I visited, with the possible exception of the Punan nomads, the belief in evil spirits and in good ones that counteract them, both called antoh, is universal, and to some extent has been adopted by the Malays. Though various tribes have their own designations (in the Duhoi (Ot-Danum) ùntu; Katingan, talúm; Kapuas, telún; Kahayan, kambae), still the name antoh is recognised throughout Dutch Borneo. Apprehension of evil being predominant in human minds, the word is enough to cause a shudder even

to some Malays. There are many kinds of both evil and good antohs; some are male, some female, and they are invisible, like the wind, but have power to manifest themselves when they desire to do so. Though sometimes appearing as an animal or bird, an antoh usually assumes the shape of a man, though much larger than an ordinary human being. Caves in the mountains are favourite haunts of evil antohs. In the great rivers, like the Barito and the Katingan, are many of huge size, larger than those in the mountains. Trees, animals, and even all lifeless objects, are possessed by antohs good or bad. According to the Katingans the sun is a benevolent masculine antoh which sleeps at night. The moon is a feminine antoh, also beneficent. Stars are the children of the sun and moon—some good, some bad.

To drive away malevolent antohs and attract benignant ones is the problem in the life philosophy of the Dayaks. The evil ones not only make him ill and cause his death, but they are at the bottom of all troubles in life. In order to attract the good ones sacrifices are made of a fowl, a pig, a water-buffalo, or, formerly, a slave. Hens' eggs may also be proffered, but usually as adjuncts to the sacrifice of an animal. If a child is ill the Katingan makes a vow that he will give Antoh from three to seven eggs or more if the child becomes well. If it fails to recover the offering is not made.

The blood is the more precious part, which the Bahau of the Mahakam, and other tribes, offer plain as well as mixed with uncooked rice. The people eat the meat themselves, but some of it is offered to the well-disposed

antoh and to the other one as well, for the Dayaks are determined to leave no stone unturned in their purpose of defeating the latter. The Duhoi (Ot-Danums) told me: "When fowl or babi are sacrificed we never forget to throw the blood and rice mixture toward the sun, moon, and 'three of the planets.'" With the Katingans the blian (priest-doctor) always drinks a little of the blood when an animal is sacrificed.

Singing to the accompaniment of drums, gongs, or the blian's shield, and dancing to the sound of drums or gongs, are further inducements brought to bear on the friendly antohs, which are attracted thereby. According to the belief which prevails in their primitive minds, the music and dancing also have a deterrent effect upon the malicious ones. Both evil and good antohs are believed to congregate on such occasions, but the dancing and music have a terrifying effect on the former, while on the latter they act as an incentive to come nearer and take possession of the performers or of the beneficiary of the function by entering through the top of the head. A primitive jews'-harp, universally found among the tribes, is played to frighten away antohs, and so is the flute.

A kindly antoh may enter a man and become his guardian spirit, to whom he occasionally offers food, but it never remains long because that would make the man insane. One must not step over a person, because a benevolent antoh that may be in possession is liable to be frightened away, say the Katingans and other Dayaks. In dancing with masks, which is much practised on the Mahakam, the idea is that the antoh of the animal repre-

sented by the mask enters the dancer through the top of his head.

The Penihings and Long-Glats of the Mahakam have an interesting belief in the existence of a friendly antoh which reminded me of the superstition of the "Nokken" in the rivers of Norway. It lives in rivers, is very rarely beheld by mortals, and the one who sees it becomes rich beyond dreams of avarice. The Long-Glats call it sangiang, a survival of Hindu influence. An old man in Long Tujo is reported to have seen this antoh, and according to him it had the appearance of a woman sitting underneath the water. No doubt other tribes have the same belief.

The most famous of antohs is the nagah, which may be good or evil, according to the treatment received from mortals, and being very powerful its help and protection are sought in a manner later to be described in connection with my travels on the Mahakam. The nagah guards underneath as well as above the surface of water and earth, but the air is protected by three birds which are messengers, or mail carriers, so to speak. They are able to call the good antoh and carry food to him; they are also attendants of man and watch over him and his food. Fowls and pigs are sacrificed to them as payment. They are—the tingang (hornbill), the sankuvai (formerly on earth but now only in heaven), and the antang (red hawk). As these birds are called by the same names in the tribes of the Katingans, Ot-Danums, Kahayans, and others, it may be presumed that their worship is widely prevalent in Borneo.

Among most if not all native races certain persons occupy themselves with religious services and at the same time cure disease. In Borneo, as far as my experience goes, these priest-doctors, whether male or female, are generally recognised by the name blian, or balian. Although some tribes have their own and different designations, for the sake of convenience I shall call them all blians.

While there are both male and female blians, the service of women is regarded as more valuable, therefore commands higher remuneration than that received by men. A Dayak explained to me: As there are two sexes among the antohs, so there are also male and female blians. He or she on occasion pretends to be possessed of helpful antohs, in some parts of Borneo called sangiangs. Besides assisting the blians in their work they enable them to give advice in regard to the future, illness, or the affairs of daily life. A blian may be possessed by as many as fifty good antohs, which do not remain long at a time. Although in the remote past men sometimes saw good or evil spirits, at present nobody is able to do so except blians, who also sing in a language that only they and the antohs understand.

The blian does not know how to take omens from birds and read the liver of the pig. There may be one expert along this line in the kampong and there may be none. The blians of the tribes visited by me can neither make rain nor afflict people with illness. Among the Long-Glats I saw them directing the great triennial feast tása, at which they were the chief performers. The con-

stant occupation of the blians, however, is to cure disease which is caused by a malicious antoh longing to eat human blood and desiring to drive away the human soul. When hungry an antoh makes somebody ill. The blian's rites, songs, dances, and sacrifices aim to induce a good antoh to chase away or kill the evil one which has taken possession of the patient, and thus make an opportunity for the frightened soul to return, which restores the man to health. This, without undue generalisation, is a short summary of the religious ideas which I found on the Mahakam and in Southern Borneo, more especially those of the Penihing, Katingan, and Murung. Further details will be found among descriptions of the different tribes.

Shortly afterward we all made an excursion up the river as far as Batu Boa, which, as is often the case, contains a Dayak as well as a Malay kampong. At the first one, a forlorn and desolate looking place, the kapala, who had an unusually large goitre, told me that eighteen men had been engaged by the captain for his journey northward from there, which definitely precluded any prospect of ours for an overland expedition, even if under other conditions it would have been possible. As for the Malays, I found them rather distant, and was glad to return to Tumbang Marowei.

Here a singular sight met us in a sculptured representation of a rhinoceros with a man on his back, entirely composed of red rubber, standing on a float and surrounded by a number of blocks made of the same material. White and red pieces of cloth tied to upright saplings on the float added a certain gaiety to the scene.

THE BEATING OF GONGS FURNISHES THE MUSIC AT FESTIVALS. TUMBANG MAROWEI

From a kinematograph film

THE FEAST OF THE RUBBER GATHERERS. TUMBANG MAROWEI

The rhino and the rider are both made of rubber

From a kinematograph film

BLIANS, OR PRIEST-DOCTORS, AT TUMBANG MAROWEI

The one to the right is of the Dusun tribe, from the Barito River, the one to the left is a Murung

Some of the kampong people had just returned from a rubber expedition, and part of the output had been cleverly turned into plastics in this way.

The rhino was about seventy-five centimetres high, strong and burly looking, and the posture of the young man on his back conveyed a vivid suggestion of action. They were now on their way to sell this to some Chinaman. The image was said to be worth from two to three hundred florins, and as there was considerable additional rubber, perhaps all of it approached a value of a thousand florins. Bringing this rubber from up country had occupied eighteen days, and it was the result of ten men's work for two or three months. Twice before during the last two years rubber had been brought here in the same manner.

First they considered it essential to make a feast for the badak (the Malay name for rhinoceros). When going out on their expedition they had promised to make a badak effigy if they found much rubber. As the man on its back represented the owner, there was the risk that one of the souls of the latter might enter his image, resulting in illness for the owner, to avoid which a pig would have to be killed and various ceremonies performed.

The festival was scheduled to take place in three days, but it had to be postponed one day on account of difficulties in procuring the pig. I presented them with three tins of rice and another half full of sugar, which they wanted to mix with water to serve as drink because there was no rice brandy. It required some exertion to bring the heavy image from the float up to the open space in

front of the house where the rubber gatherers lived, but this had been done a day or two before the feast, the statue in the meantime having been covered with white cotton cloth. Several metres of the same material had also been raised on poles to form a half enclosure around the main object. The feast had many features in common with the one we had seen, as, for instance, dancing, and a good deal of Malay influence was evident in the clothing of the participants, also in the setting. Nevertheless, the ceremonies, which lasted only about two hours, were not devoid of interest.

The men, manifesting great spontaneity and enthusiasm, gathered quickly about and on the badak, and one of them took the rubber man by the hand. This was followed by pantomimic killing of the badak with a ceremonial spear as well as with parangs, which were struck against its neck. The man who was deputed to kill the pig with the spear missed the artery several times, and as blood was his first objective, he took no care to finish the unfortunate animal, which was still gasping fifteen minutes later.

An old woman then appeared on the scene who waved a bunch of five hens, to be sacrificed, whirling them over and among the performers who were then sitting or standing. The hens were killed in the usual way by cutting the artery of the neck, holding them until blood had been collected, and then leaving them to flap about on the ground until dead. Blood was now smeared on the foreheads of the principal participants, and a young woman danced a graceful solo.

Having ascertained, by sending to the kampong below, that I could obtain twenty men with prahus whenever I intended to move, I discharged with cheerful willingness most of the Puruk Tjahu Malays. Their departure was a relief also to the Murungs, who feared to be exploited by the Malays. As soon as the latter had departed in the morning, many Dayaks whom I had not seen before ventured to come up to the kitchen and my tent to ask for empty tin cans. The Malays had slept in the Dayak houses, and the last night one of them carried off the mat which had been hospitably offered him.

One day there were two weddings here, one in the morning and the other in the evening. A cloth was spread over two big gongs, which were standing close together on the floor and formed seats for the bride and bridegroom. She seemed to be about sixteen years old, and laughed heartily and frequently during the ceremony, which occupied but a few minutes. A man waved a young live hen over and around them, then went away and killed it in the usual manner, returning with the blood, which, with the help of a stick, he smeared on the forehead, chest, neck, hands, and feet of the bridal pair, following which the two mutually daubed each other's foreheads. The principal business connected with marriage had previously been arranged—that of settling how much the prospective bridegroom was to pay to the bride's parents. With most tribes visited I found the adjustment of the financial matter conclusive in itself without further ceremonies.

The officiating blian took hold of a hand of each.

pulled them from their seats, and whisked them off as if to say: "Now you can go—you are married!" Outside the full moon bathed the country in the effulgence of its light, but being quite in zenith it looked rather small as it hung in the tropical sky.

The moist heat in the latter part of September and first half of October was more oppressive here than I experienced anywhere else in Borneo. When for a few days there was no rain the temperature was uncomfortable, though hardly rising above 90° F. As there was no wind Rajimin's skins would not dry and many spoiled. Flies, gnats, and other pests were troublesome and made it difficult even to take a bath. Itching was produced on the lower part of the legs, which if scratched would become sores that usually took weeks to heal, and though the application of iodine was of some avail, the wounds would often suppurate, and I have myself at times had fever as a result. The best remedy for these and like injuries on the legs is a compress, or wet bandage, covered with oiled silk, which is a real blessing in the tropics and the material for which any traveller is well advised in adding to his outfit.

Rain with the resultant cooling of the atmosphere seldom waited long, however, and when the river rose to within a metre of my tent, which I had pitched on the edge of the river bank, I had to abandon it temporarily for the house in which Mr. Demmini and Mr. Loing resided, a little back of the rest of the houses. Besides a kitchen, it contained a large room and a small one, which I appropriated. This house, which was five generations

old and belonged to the brother of the kapala, had in its centre an upright pillar carved at the top which passed through the floor without reaching the roof. The house, as is the universal custom in Borneo, stands on piles, and in erecting it a slave who, according to ancient custom, was sacrificed, in that way to insure good luck, had been buried alive underneath the central post, which was more substantial than the others.

During rain it is conducive to a sense of comfort and security to be safely roofed and sheltered in a house, but usually I preferred my tent, and occupied it unless the river was too threatening. From the trees in its close proximity a species of small frog gave concerts every evening, and also occasionally favoured me with a visit. One morning they had left in my quarters a cluster of eggs as large as a fist, of a grey frothy matter, which the ants soon attacked and which later was eaten by the hens.

The fowls, coarse, powerful specimens of the poultry tribe, were a source of great annoyance on account of their number and audacity. As usual among the Malays, from whom the Dayaks originally acquired these domestic birds, interest centres in the males on account of the prevalent cock-fights, and the hens are in a very decided minority. For the night the feathered tribe settles on top of the houses or in the surrounding trees. Hens with small chickens are gathered together in the evening by the clever hands of the Dayak women, hen and brood being put into an incredibly small wicker bag, which is hung up on the gallery for the night. Otherwise carnivorous animals, prowling about, would make short work of them.

at dusk. Every evening afterward about eight o'clock it was a regular visitor, taking food out of my hand and then continuing its trip to the kitchen, which was less than a hundred metres farther up the river bank. Finally it became a nuisance, turning over saucepans to look for food and otherwise annoying us, so I bought it for one ringit in order to have it skinned. The difficulty was to catch it, because its quills are long and sharp; but next evening the Murungs brought it to me enmeshed in a strong net, and how to kill it was the next question.

The Dayaks at once proposed to shoot it with the sumpitan—a very good scheme, though I fancied that darkness might interfere. However, in the light of my hurricane lamp one man squatted on the ground and held the animal, placing it in a half upright position before him. The executioner stepped back about six metres, a distance that I thought unnecessary, considering that if the poisoned dart hit the hand of the man it would be a most serious affair. He put the blow-pipe to his mouth and after a few moments the deadly dart entered the porcupine at one side of the neck. The animal, which almost at once began to quiver, was freed from the entangling net, then suddenly started to run round in a small circle, fell on his back, and was dead in less than a minute after being hit.

It was a wonderful exhibition of the efficiency of the sumpitan and of the accuracy of aim of the man who used the long heavy tube. The pipe, two metres long, is held by the native with his hands close to the mouth, quite contrary to the method we should naturally adopt.

The man who coolly held the porcupine might not have been killed if wounded, because the quantity of poison used is less in the case of small game than large. The poison is prepared from the sap of the upas tree, *antiaris toxicaria*, which is heated until it becomes a dark paste. It is a fortunate fact that these extremely efficient weapons, which noiselessly bring down birds and monkeys from great heights, are not widely distributed over the globe. If one is hit by the dart which is used when destined for man or big game, and which has a triangular point, it is said that no remedy will avail.

Rajimin, the taxidermist, had frequent attacks of malaria with high fever, but fortunately he usually recovered rapidly. One day I found him skinning birds with his pulse registering one hundred and twenty-five beats a minute. I engaged a Murung to assist in making my zoological collections, and he learned to skin well and carefully, though slowly. Judging from the number of long-nosed monkeys brought in, they must be numerous here. These animals are at times met in droves of a hundred or more passing from branch to branch through the woods. When old they cannot climb. One morning this Dayak returned with three wah-wahs, and related that after the mother had been shot and had fallen from the tree, the father seized the young one and tried to escape, but they were both killed by the same charge.

On account of adverse weather conditions most of the skins here spoiled, in some degree at least, in spite of all efforts, especially the fleshy noses of the long-nosed monkeys. A special brand of taxidermist's soap from

London, which contained several substitutes for arsenic and claimed to be equally efficient, may have been at fault in part, though not entirely, the main cause being the moist heat and the almost entire lack of motility in the air. So little accustomed to wind do the natives here appear to be that a small boy one day jubilantly drew attention to some ripples in the middle of the river caused by an air current.

My Malay cook was taken ill, so I had to do most of the cooking myself, which is not particularly pleasant when one's time is valuable; and when he got well his lack of experience rendered it necessary for me to oversee his culinary operations. One day after returning to my tent from such supervision I had a curious adventure with a snake. It was a warm day about half past one. All was quiet and not a blade stirred. I paused near the tent opening, with my face toward the opposite side of the river, which could be seen through an opening among the trees. Standing motionless on the bank, which from there sloped gradually down toward the river, more than a minute had elapsed when my attention was distracted by a slight noise behind me. Looking to the right and backward my surprise was great to perceive the tail-end of a black snake rapidly proceeding toward the left. Hastily turning my eyes in that direction I beheld the well-shaped, powerful, though somewhat slender, forward part of the serpent, which, holding its head high, almost to the height of my knee, made downward toward the river.

In passing over the open space along the river bank it

had found its path obstructed by some boxes, etc., that were in front of the tent opening, and had suddenly changed its route, not noticing me, as I stood there immovable. It thus formed a right angle about me scarcely twenty-five centimetres distant. At first glance its shape suggested the redoubtable king cobra, but two very conspicuous yellow parallel bands running obliquely against each other across the flat, unusually broad head, indicated another species, though probably of the same family.

The formidable head on its narrow neck moved rapidly from side to side; I felt as if surrounded, and although the reptile evidently had no hostile intentions and appeared as much surprised as I was, still, even to a nature lover, our proximity was too close to be entirely agreeable, so I stepped back over the snake. In doing so my foot encountered the kettle that contained my bathing water, and the noise probably alarmed the serpent, which rapidly glided down the little embankment, where it soon reached the grass next to the river and disappeared. It was a magnificent sight to watch the reptile, about two and a half metres in length, jet black and perfectly formed, moving swiftly among the trees. The Malays call this snake, whose venom is deadly, ular hanjalivan, and according to the Murungs a full-grown man dies within half an hour from its bite. This species appears to be fairly numerous here.

At times the natives here showed no disinclination to being photographed, but they wanted wang (money) for posing. Usually I had to pay one florin to each, or fifty

cents if the hair was not long. At other times nothing would induce them to submit to the camera. A young woman recently married had a row with her husband one night, and the affair became very boisterous, when suddenly they came to terms. The trouble arose through her desire to earn some pin-money by being photographed in the act of climbing an areca palm, a proceeding which did not meet with his approval.

There were three female blians in the kampong whom I desired to photograph as they performed the dances connected with their office, but the compensation they demanded was so exorbitant (two hundred florins in cash and nine tins of rice) that we did not reach an agreement. Later in the day they reduced their demand to thirty florins for a pig to be used at the dancing, which proposition I also declined, the amount named being at least six times the value of the animal, but I was more fortunate in my dealings with the two male blians of the place, one of them a Dusun, and succeeded in inducing them to dance for me one forenoon.

The two men wore short sarongs around their loins, the women's dress, though somewhat shorter; otherwise they were nude except for bands, to which numerous small metal rattles were attached, running over either shoulder and diagonally across chest and back. After a preliminary trial, during which one of them danced with much élan, he said: "I felt a spirit come down in my body. This will go well." The music was provided by two men who sat upon long drums and beat them with fervour and abandon. The dance was a spirited move-

MURUNG WOMEN SMOKING CIGARETTES AND PREPARING THEM FROM NATIVE TOBACCO AND LEAVES OF TREES. TUMBANG MAROWEI

From a kinematograph film

THE SCALY ANT-EATER (*MANIS*). TUMBANG MAROWEI

TELOK DJULO, AN OT-DANUM KAMPONG, ON THE BARITO RIVER

ment forward and backward with peculiar steps accompanied by the swaying of the body. The evolutions of the two dancers were slightly different.

In October a patrouille of seventeen native soldiers and nine native convicts, under command of a lieutenant, passed through the kampong. In the same month in 1907 a patrouille had been killed here by the Murungs. It must be admitted that the Dayaks had reason to be aggrieved against the lieutenant, who had sent two Malays from Tumbang Topu to bring to him the kapala's attractive wife—an order which was obeyed with a tragic sequence. The following night, which the military contingent passed at the kampong of the outraged kapala, the lieutenant and thirteen soldiers were killed. Of course the Dayaks had to be punished; the government, however, took the provocation into account.

The kapala's wife and a female companion demanded two florins each for telling folklore, whereupon I expressed a wish first to hear what they were able to tell. The companion insisted on the money first, but the kapala's wife, who was a very nice woman, began to sing, her friend frequently joining in the song. This was the initial prayer, without which there could be no story-telling. She was a blian, and her way of relating legends was to delineate stories in song form, she informed me. As there was nobody to interpret I was reluctantly compelled to dispense with her demonstration, although I had found it interesting to watch the strange expression of her eyes as she sang and the trance-like appearance she maintained. Another notice-

jungle three or four years, or longer, until that event takes place. This elaborate ceremony is offered by surviving relatives as an equivalent for whatever was left behind by the deceased, whose ghost is regarded with apprehension.

Fortunately the Murungs were then preparing for such an observance at the Bundang kampong higher up the river where I intended to visit. They were making ready to dispose of the remains of no less a personage than the mother of our kapala. A water-buffalo would be killed and the festival would last for a week. In three years there would be another festal occasion of two weeks' duration, at which a water-buffalo would again be sacrificed, and when a second period of three years has elapsed the final celebration of three weeks' duration will be given, with the same sacrificial offering. Thus the occasions are seen to be of increasing magnitude and the expenses in this case to be on a rising scale. It was comparatively a small affair.

About a month later, when I stopped at Buntok, on the Barito, the controleur of the district told me that an unusually great tiwah feast had just been concluded in the neighbourhood. He had spent ten days there, the Dayaks having erected a house for him to stay in. More than two hundred pigs and nineteen water-buffaloes had been killed. Over three hundred bodies, or rather remains of bodies, had previously been exhumed and placed in forty boxes, for the accommodation of which a special house had been constructed. These, with contents, were burned and the remains deposited in ten re-

ceptacles made of iron-wood, those belonging to one family being put in the same container.

Some of the Dayaks were much preoccupied with preparations for the Bundang ceremony, which was postponed again and again. They encouraged me to participate in the festivities, representing it as a wonderful affair. I presented them with money to buy a sack of rice for the coming occasion, and some of them went at once to Puruk Tjahu to purchase it. Having overcome the usual difficulties in regard to getting prahus and men, and Mr. Demmini having recovered from a week's illness, I was finally, early in November, able to move on. Several people from our kampong went the same day, and it looked as if the feast were really about to take place.

We proceeded with uneventful rapidity up-stream on a lovely day, warm but not oppressively so, and in the afternoon arrived at Bundang, which is a pleasant little kampong. The Dayaks here have three small houses and the Malays have five still smaller. A big water-buffalo, which had been brought from far away to be sacrificed at the coming ceremonial, was grazing in a small field near by. The surrounding scenery was attractive, having in the background a jungle-clad mountain some distance away, which was called by the same name as the kampong, and which, in the clear air against the blue sky, completed a charming picture. We found a primitive, tiny pasang-grahan, inconveniently small for more than one person, and there was hardly space on which to erect my tent.

There appeared to be more Siangs than Murungs here, the former, who are neighbours and evidently allied to the latter, occupying the inland to the north of the great rivers on which the Murungs are chiefly settled, part of the Barito and the Laong. They were shy, friendly natives, and distinguished by well-grown mustaches, an appendage I also later noted among the Upper Katingans. The people told me that I might photograph the arrangements incident to the feast as much as I desired, and also promised to furnish prahus and men when I wished to leave.

The following day Mr. Demmini seemed worse than before, being unable to sleep and without appetite. The festival was to begin in two days, but much to my regret there seemed nothing else to do but to return to Puruk Tjahu. The Dayaks proposed to take the sick man there if I would remain, but he protested against this, and I decided that we should all leave the following day. In the evening I attended the dancing of the Dayak women around an artificial tree made up of bamboo stalks and branches so as to form a very thick trunk. The dancing at the tiwa feast, or connected with it, is of a different character and meaning from the general performance which is to attract good antohs. This one is meant to give pleasure to the departed soul. The scene was inside one of the houses, and fourteen or fifteen different dances were performed, one of them obscene, but presented and accepted with the same seriousness as the other varieties. Some small girls danced extraordinarily well, and their movements were fairylike in unaffected grace.

Enjoying the very pleasant air after the night's rain, we travelled rapidly down-stream on the swollen river to Tumbang Marowei, where we spent the night. There were twenty men from the kampong eager to accompany me on my further journey, but they were swayed to and fro according to the dictates of the kapala, who was resolutely opposed to letting other kampongs obtain possession of us. He wanted to reserve for himself and the kampong the advantages accruing from our need of prahus and men. To his chagrin, in the morning there arrived a large prahu with four Murungs from Batu Boa, who also wanted a chance at this bonanza, whereupon the kapala began to develop schemes to harass us and to compel me to pay more.

Without any reason whatsoever, he said that only ten of the twenty men I had engaged would be able to go. This did not frighten me much, as the river was swollen and the current strong, so that one man in each of our prahus would be sufficient to allow us to drift down to the nearest Malay kampong, where I had been promised men some time before. At first I was quite concerned about the loading of the prahus, as the natives all exhibited a marked disinclination to work, the kapala, as a matter of fact, having ordered a strike. However, with the ten men allowed I was able by degrees to bring all our goods down to the river bank, whereupon the kapala, seeing that I was not to be intimidated, permitted the rest of the men to proceed.

It was an unpleasant affair, which was aggravated by what followed, and was utterly at variance with my

other experiences during two years among the Dayaks. I was greatly surprised to observe that some of the men who had been loitering near our goods on the bank of the river had begun to carry off a number of large empty tins which had been placed there ready for shipment. These are difficult to procure, and being very necessary for conveying rice, salt, and other things, I had declined to give them away. The natives had always been welcome to the small tin cans, also greatly in favour with them. Milk and jam tins are especially in demand, and after they have been thrown away the Dayaks invariably ask if they may have them. As they are very dexterous in wood-work they make nicely carved wooden covers for the tins, in which to keep tobacco or other articles.

Returning from one of many tours I had made back to the house from where our belongings were taken, I caught sight of three Murungs running as fast as they could, each carrying two large tins, the kapala calmly looking on. I told him that unless they were immediately returned I should report the matter to the government. This had the desired effect, and at his order no less than sixteen large tins were promptly produced.

This was surprising, but as a faithful chronicler of things Bornean I feel obliged to tell the incident, the explanation of which to a great extent is the fact that the natives here have been too susceptible to the demoralising Malay influence which has overcome their natural scruples about stealing. It must be admitted that the Dayaks wherever I have been are fond of wang (money), and they are inclined to charge high prices for the articles

they are asked to sell. They have, if you like, a childish greed, which, however, is curbed by the influence of their religious belief before it has carried them to the point of stealing. Under continued Malay influence the innate longing for the possession of things very much desired overwhelms them and conquers their scruples.

We afterward discovered that several things were missing, of no great importance except a round black tin case containing thermometers and small instruments, which without doubt had been appropriated by the owner of the house where we had been staying. Two or three weeks previously he had begged me to let him have it, as he liked it much and needed it. I said that was impossible, but evidently he thought otherwise. Perhaps the Murungs are more avaricious than other tribes. I was told in Puruk Tjahu that they were greedy, and it seems also as if their scruples about stealing are less acute than elsewhere in Borneo. The reputation of the Dayaks for honesty is great among all who know them. As far as my knowledge goes the Murungs are mild-mannered and polite, but not particularly intelligent. The higher-class people, however, are intelligent and alert, manifesting firmness and strength of mind.

It was one o'clock before we were able to start, but circumstances favoured us, and after dark we reached the kampong at the mouth of the Laong River, where we made ourselves quite comfortable on the landing float, and I rejoiced at our recent escape from an unpleasant situation. The following day we arrived at Puruk Tjahu. After a few days' stay it was found expedient to

called from the ladangs. Children lighter than the parents is a usual phenomenon in black and brown races. There was, however, one four-year-old boy conspicuous for his light hair and general blondness, who was different from the ordinary Dayak in frame and some of his movements; he was coarsely built, with thick limbs, big square head, and hands and feet strikingly large. There could be no doubt about his being a half-breed, neither face nor expression being Dayak. One hare-lipped woman and a child born blind were observed here. Other kampongs in the inland neighbourhood, mentioned in the same report, were not visited.

On our arrival at Puruk Tjahu the low water at first made it doubtful whether the *Otto* would be able to proceed further, but during the night it rose five metres, continued rising, and changed into a swollen river, as in springtime, carrying sticks and logs on its dirty reddish waters. After a foggy morning the sun came out and we had an enchanting day's journey, the movement of the ship producing a soft breeze of balmy air after the rainy night and morning. We passed a timber float stranded on high ground, with Malay men, women, and children who had been living there for weeks, waiting for the water to rise again as high as where it had left them. They evidently enjoyed the unusual sight of the steamer, and followed us attentively.

In the afternoon we arrived at Poru, a small, oppressively warm kampong, deserted but for an old man and one family, the others having gone to gather rattan in the utan. This was to be our starting-point, where our bag-

gage would have to be put in convenient shape for travel in boat and overland, and where we hoped it might be possible to buy prahus and obtain men by searching the kampongs higher up the river. In this we were disappointed, so the lieutenant went back to Puruk Tjahu, in the neighbourhood of which are many kampongs, nearly all Malay, there as well as here. He took with him one soldier who had proved to have an obnoxious disease, leaving us with five for the expedition, which we deemed sufficient.

On Christmas day I bought from an old Dayak a large, ripe fruit called in Malay nangca (*artocarpus integrifolia*) of the jack fruit family. It is very common. Before maturing it is used as an every-day vegetable, which is boiled before eating. I was surprised to find that when fully ripe this fruit has an agreeable flavour of banana, but its contents being sticky it is difficult to eat. The sergeant, with the culinary ability of the Javanese, prepared for the holiday a kind of stew, called sambil goreng, which is made on the same principle as the Mexican variety, but decidedly superior. Besides the meat or fish, or whatever is used as the foundation, it contains eight ingredients and condiments, all indigenous except red pepper and onions.

In the ladangs is cultivated the maize plant, which just then was in condition to provide us with the coveted green corn, and carried my thoughts to America, whence the plant came. Maize is raised on a very limited scale, and, strange to say, higher up the river the season was already over. At Poru we tried in vain to secure a kind

of gibbon that we heard almost daily on the other side of the river, emitting a loud cry but different from that of the ordinary wah-wah. Rajimin described it as being white about the head and having a pronounced kind of topknot.

As far as we had advanced up the Barito River, Malay influence was found to be supreme. The majority of the kampongs are peopled by Malays, Dayaks at times living in a separate section. This relation may continue at the lower courses of the tributaries, yielding to a Dayak population at the upper portions. In the kampongs, from our present camp, Poru, up to the Busang tributary, the population continues to be subject to strong Malay influence, the native tribes gradually relinquishing their customs, beliefs, and vernacular. But back from the river on either side the Dayak still easily holds his own.

The old kapala of Poru had an attractive eight-year-old granddaughter, of a singularly active and enterprising disposition, who always accompanied him. He called my attention to the fact that she wore a solid-looking gold bracelet around each wrist, a product of the country. In the dry season when the river is low two or three hundred Dayaks and Malays gather here to wash gold, coming even as far as from Muara Tewe. The gold mixed with silver is made into bracelets, wristlets, or breastplates by these natives.

The lieutenant had been unable to secure more than sixteen men, all Malays, which was insufficient for the six prahus we had bought. Therefore it became necessary to travel in relays, the lieutenant waiting in Poru

until our men and prahus should return from Telok Djulo, for which kampong the rest of us started in late December.

After considerable rain the river was high but navigable, and two days' travel brought us to a rather attractive kampong situated on a ridge. Rajimin accompanied by Longko, the principal one of our Malays, went out in the evening to hunt deer, employing the approved Bornean method. With a lamp in the bow the prahu is paddled noiselessly along the river near the bank. Rusa, as a large species of deer are called, come to the water, and instead of being frightened are attracted by the light. Rajimin, who was of an emotional and nervous temperament, missed two plandoks and one rusa, Longko reported, and when he actually killed a rusa he became so excited that he upset the prahu.

We started before seven o'clock on a glorious morning, January first. On the river bank some trees, which did not appear to me to be indigenous, were covered with lovely flowers resembling hibiscus, some scarlet, some yellow. I had my men gather a small bunch, which for several hours proved attractive in the prosaic Malay prahu. The equatorial regions have not the abundance of beautiful flowers that is credited to them by popular belief. The graceful pitcher-plants (*nepenthes*) are wonderful and so are many other extraordinary plant creations here, but they cannot be classed as beautiful flowers in the common acceptation of the word. There are superb flowers in Borneo, among them the finest in existence, orchids, begonias, etc., but on account of the

character of their habitats, within a dense jungle, it is generally difficult to see them. The vast majority of orchids are small and inconspicuous, and in hunting for magnificent ones the best plan is to take natives along who will climb or cut down the trees on which they grow.

On the third day the river had become narrow and shallower, and early in the afternoon we arrived at Telok Djulo, a kampong of Ot-Danums interspersed with Malays. It is composed of many houses, forming one side of an irregular street, all surrounded with a low fence for the purpose of keeping pigs out. The storehouses recalled those of the Bulungan, with their wide wooden rings around the tops of the supporting pillars, to prevent mice from ascending. Outside of the fence near the jungle two water-buffaloes were always to be seen in the forenoon lying in a mud-pool; these we were warned against as being dangerous. These Dayaks, who are shy but very friendly, are said to have immigrated here over thirty years ago. They are mostly of medium size, the women stocky, with thick ankles, though otherwise their figures are quite good. The Ot-Danum men, like the Murungs, Siangs, and Katingans, place conspicuously on the calf of the leg a large tatu mark representing the full moon. When preparing to be photographed, men, women, and children decorate their chests with crudely made gold plates shaped nearly like a half moon and hanging one above another, generally five in number. One of the blians was a Malay.

Here we had to stay two weeks, while the remainder

OT-DANUM, WEARING GOLD BREASTPLATES. TELOK DJULO

PASSING THE KIHAM MUDANG, ON THE UPPER BARITO RIVER

of our baggage was being brought up and until a new station for storing goods had been established in the jungle higher up the river. Rajimin had an attack of dysentery, and although his health improved he requested permission to return, which I readily granted notwithstanding his undeniable ability in skinning birds. He was afraid of the kihams, not a good shot, and so liable to lose his way in the jungle that I always had to have a Dayak accompany him. It is the drawback with all Javanese that, being unaccustomed to these great jungles, at first they easily get lost. Rajimin joined a few Malays in building a small float, on which they went down the river. Several Malays aspired to succeed him as taxidermist, but showed no aptitude. I then taught one of our Javanese soldiers who had expressed interest in the matter. Being painstaking and also a good shot, the new tokang burong (master of birds), the Malay designation for a taxidermist, gave satisfactory results in due time.

One day while I was taking anthropometric measurements, to which the Ot-Danums grudgingly submitted, one of them exhibited unusual agitation and actually wept. Inquiring the reason, I learned that his wife had jilted him for a Kapuas Dayak who, a couple of nights previously, when the injured man was out hunting wild pigs for me, had taken advantage of the husband's absence. Moreover, the night before, the rival had usurped his place a second time, compelling the husband to go elsewhere. The incident showed how Dayak ideas were yielding to Malay influence. He was in despair about it, and threatened to kill the intruder as well as

tance out. It ran against this and made a disagreeable turn, but regained its balance.

The next one nearly turned over, and Mr. Demmini decided to take out the kinema camera, which was got in readiness to film the picturesque scene. In the meantime, in order to control the prahu from the side, a second rattan rope had been tied to the following one, thereby enabling the men to keep it from going too far out. This should have been done at the start, but the Malays always like to take their chances. Though the remaining prahus did not present such exciting spectacles, nevertheless the scene was uncommonly picturesque. After nine hours of heavy work, during most of which the men had kept running from stone to stone dragging rattan cables, we camped on a sand-ridge that ran out as a peninsula into the river. At one side was an inlet of calm, dark-coloured water into which, a hundred metres away, a tributary emptied itself into a lovely waterfall. A full moon rose over the enchanting landscape.

At half-past six in the morning we started for the next kiham, the so-called Kiham Mudang, where we arrived an hour later. This was the most impressive of all the rapids so far, the river flowing between narrow confines in a steady down-grade course, which at first sight seemed impossible of ascent. The river had fallen half a metre since the day before, and although most kihams are easier to pass at low water, this one was more difficult. The men, standing in water up to their arms, brought all the luggage ashore and carried it further up the river. Next the prahus were successfully pulled up, being kept

as near land as possible and tossed like toys on the angry waves, and pushed in and out of small inlets between the big stones. In three hours we effected the passage and in the afternoon arrived at Tumbang Djuloi, a rather prettily situated kampong on a ridge along the river.

I was installed in a small house which was vacant at one end of the little village, the greater part of which is Malay. There were two houses belonging to Ot-Danums which I found locked with modern padlocks. Nearly all Malays and Dayaks were at the ladangs, where they spend most of their time, remaining over night. Coal, which is often found on the upper part of the Barito River, may be observed in the bank of the river in a layer two metres thick. It is of good quality, but at present cannot be utilised on account of the formidable obstacle to transportation presented by the kiham below.

Our Malays soon began to talk of returning, fifteen of the twenty-four men wanting to go home. Payment having been refused until the goods left below had been brought up, a settlement was reached and the necessary men, with the sergeant, departed for Telok Djulo. In the meantime we began to convey our belongings higher up the river, above the next kiham, where they were stored in the jungle and covered with a tent cloth.

After the arrival of the luggage which had been left behind, there was a universal clamour for returning home, the Malays professing great disinclination to proceeding through the difficult Busang country ahead of us. Even those from Puruk Tjahu, who had pledged themselves to continue to the end, backed out. Though

wages were raised to f. 1.50 per day, only eight men remained. To this number we were able to add three Malays from the kampong. One was the Mohammedan guru (priest), another a mild-tempered Malay who always had bad luck, losing floats of rattan in the kihams, and therefore passed under the nickname of tokang karam (master of misfortune). The third was a strong, tall man with some Dayak blood, who was tatued. Djobing, as he was named, belonged to a camp of rattan workers up on the Busang, and decided to go at the last moment, no doubt utilising the occasion as a convenient way of returning.

I was glad to see him climb down the steep embankment, carrying in one hand a five-gallon tin, neatly painted, which had opening and cover at the long side, to which a handle was attached. Under the other arm he had the usual outfit of a travelling Malay, a mat, on which he slept at night and in which were wrapped a sheet and a few pieces of light clothing. His tin case was full of tobacco and brought forth disparaging remarks from the lieutenant, who was chary of the precious space in the prahus.

Having successfully passed the censor Djobing was assigned to my prahu, where he soon showed himself to be a very good man, as alert as a Dayak and not inclined to save himself trouble. He would jump into the water up to his neck to push and steer the prahu, or, in the fashion of the Dayaks and the best Malays, would place his strong back under and against it to help it off when grounded on a rock. When circumstances require quick action such

men will dive under the prahu and put their backs to it from the other side.

There was little chance of more paddling, the prahus being poled or dragged by rattan, and many smaller kihams were passed. We entered the Busang River, which is barely thirty-five metres wide at its mouth, flowing through hilly country. The water was low at that time, but is liable to rise quickly, through rains, and as it has little opportunity for expansion at the sides the current flows with such violence that travel becomes impossible. The most difficult part of our journey lay before us, and the possibility of one or two, or even three months' delay on account of weather conditions is then taken as a matter of course by the natives, though I trusted to have better luck than that.

CHAPTER XVI

ARRIVAL AT BAHANDANG—ON THE EQUATOR—A STARTLING ROBBERY—OUR MOST LABORIOUS JOURNEY—HORNBILLS—THE SNAKE AND THE INTREPID PENYAHBONG—ARRIVAL AT TAMALOË

BAHANDANG, where we arrived early in the second afternoon, is the headquarters of some Malay rubber and rattan gatherers of the surrounding utan. A house had been built at the conflux with the river of a small affluent, and here lived an old Malay who was employed in receiving the products from the workers in the field. Only his wife was present, he having gone to Naan on the Djuloi River, but was expected to return soon. The place is unattractive and looked abandoned. Evidently at a previous time effort had been made to clear the jungle and to cultivate bananas and cassavas. Among felled trees and the exuberance of a new growth of vegetation a few straggling bananas were observable, but all the big cassava plants had been uprooted and turned over by the wild pigs, tending to increase the dismal look of the place. A lieutenant in charge of a patrouille had put up a rough pasang-grahan here, where our lieutenant and the soldiers took refuge, while I had the ground cleared near one end of it, and there placed my tent.

Not far off stood a magnificent tree with full, straight stem, towering in lonely solitude fifty metres above the overgrown clearing. In a straight line up its tall trunk

wooden plugs had been driven in firmly about thirty centimetres apart. This is the way Dayaks, and Malays who have learned it from them, climb trees to get the honey and wax of the bees' nests suspended from the high branches. On the Barito, from the deck of the *Otto*, I had observed similar contrivances on still taller trees of the same kind called tapang, which are left standing when the jungle is cleared to make ladangs.

A few days later the rest of our party arrived and, having picked up six rubber gatherers, brought the remainder of the luggage from their camp. Some men were then sent to bring up the goods stored in the utan below, and on February 3 this was accomplished. An Ot-Danum from the Djuloi River, with wife and daughter, camped here for a few days, hunting for gold in the river soil, which is auriferous as in many other rivers of Borneo. They told me they were glad to make sixty cents a day, and if they were lucky the result might be two florins.

We found ourselves in the midst of the vast jungles that cover Borneo, serving to keep the atmosphere cool and prevent air currents from ascending in these windless tropics. We were almost exactly on the equator, at an elevation of about 100 metres. In January there had been little rain and in daytime the weather had been rather muggy, but with no excessive heat to speak of, provided one's raiment is suited to the tropics. On the last day of the month, at seven o'clock in the morning, after a clear and beautiful night, the temperature was 72° F. (22° C.). During the additional three weeks passed

here, showers fell occasionally and sometimes it rained all night. As a rule the days were bright, warm, and beautiful; the few which were cloudy seemed actually chilly and made one desire the return of the sun.

Our first task was to make arrangements for the further journey up the Busang River to Tamaloë, a remote kampong recently formed by the Penyahbongs on the upper part of the river. We were about to enter the great accumulation of kihams which make travel on the Busang peculiarly difficult. The lieutenant's hope that we might secure more men from among the rubber gatherers was not fulfilled. The few who were present made excuses, and as for the others, they were far away in the utan, nobody knew where. We still had some Malays, and, always scheming for money or advantage to themselves, they began to invent new difficulties and demand higher wages. Although I was willing to make allowances, it was impossible to go beyond a certain limit, because the tribes we should meet later would demand the same payment as their predecessors had received. The old Malay resident, who in the meantime had returned from his absence, could offer no advice.

Finally exorbitant wages were demanded, and all wanted to return except four. As the lieutenant had expressed his willingness to proceed to Tamaloë in advance of the party and try to hire the necessary men there, it was immediately decided that he should start with our four remaining men and one soldier, while the rest of us waited here with the sergeant and four soldiers. On February 4 the party was off, as lightly equipped

ROUGH TRAVEL BY BOAT ON THE UPPER BARITO RIVER

PASSING THE BOATS UP THE RAPIDS OF THE UPPER BARITO RIVER

The boats often had to be unloaded and the goods carried by the men

From a kinematograph film

as possible, and if all went well we expected to have the necessary men within three weeks.

On the same afternoon Djobing and three companions, who were going up to another rattan station, Djudjang, on a path through the jungle, proposed to me to transport some of our luggage in one of my prahus. The offer was gladly accepted, a liberal price paid, and similar tempting conditions offered if they and a few men, known to be at the station above, would unite in taking all our goods up that far. The following morning they started off.

The Malays of these regions, who are mainly from the upper part of the Kapuas River in the western division and began to come here ten years previously, are physically much superior to the Malays we brought, and for work in the kihams are as fine as Dayaks. They remain here for years, spending two or three months at a time in the utan. Djobing had been here four years and had a wife in his native country. There are said to be 150 Malays engaged in gathering rattan, and, no doubt, also rubber, in these vast, otherwise uninhabited upper Dusun lands.

What with the absence of natives and the scarcity of animals and birds, the time spent here waiting was not exactly pleasant. Notwithstanding the combined efforts of the collector, the sergeant, and one other soldier, few specimens were brought in. Mr. Demmini, the photographer, and Mr. Loing were afflicted with dysentery, from which they recovered in a week.

As a climax came the startling discovery that one of

the two money-boxes belonging to the expedition, containing f. 3,000 in silver, had been stolen one night from my tent, a few feet away from the pasang-grahan. They were both standing at one side covered with a bag, and while it was possible for two men to carry off such a heavy box if one of them lifted the tent wall, still the theft implied an amount of audacity and skill with which hitherto I had not credited the Malays. The rain clattering on the roof of the tent, and the fact that, contrary to Dutch custom, I always extinguished my lamp at night, was in their favour. After this occurrence the lamp at night always hung lighted outside of the tent door. All evidence pointed to the four men from Tumbang Djuloi who recently left us. The sergeant had noticed their prahus departing from a point lower down than convenience would dictate, and, as a matter of fact, nobody else could have done it. But they were gone, we were in seclusion, and there was nobody to send anywhere.

In the middle of February we had twenty-nine men here from Tamaloë, twenty of them Penyahbongs and the remainder Malays. The lieutenant had been successful, and the men had only used two days in coming down with the current. They were in charge of a Malay called Bangsul, who formerly had been in the service of a Dutch official, and whose fortune had brought him to distant Tamaloë, where he had acquired a dominating position over the Penyahbongs. I wrote a report of the robbery to the captain in Puruk Tjahu, and sent Longko to Tumbang Djuloi to deliver it to the kapala, who was requested to forward it. There the matter ended.

I was determined that the loss, though at the time a hard blow, should not interfere with the carrying out of my plans. By rigid economy it could, at least partially, be offset, and besides, I felt sure that if the necessity arose it would be possible later to secure silver from Dutch officials on the lower Mahakam River. Bangsul and some Penyahbongs, at my request, searched in the surrounding jungle growth and found a hole that had been dug of the same size and shape as the stolen box, where no doubt it had been deposited until taken on board the prahu.

The day previous to our departure Mr. Demmini again was taken ill, and in accordance with his own wish it was decided that he should return. I let him have Longko in command of one of the best prahus, and in time he arrived safely in Batavia, where he had to undergo further treatment. Longko, the Malay with the reputation for reliability, never brought back the men and the prahu; their loss, however, was greater than mine, as their wages, pending good behaviour, were mostly unpaid.

Shortly after their prahu had disappeared from view, on February 20, we departed in the opposite direction. Our new crew, of Penyahbongs mostly, who only lately have become acquainted with prahus, were not quite so efficient as the former, but much more amiable, laughing and cracking jokes with each other as they ran along over the rocks, pulling the rattan ropes of the prahus. No sooner did we ascend one kiham than we arrived at another, but they were still small. Although the day was

unusually warm, there was a refreshing coolness in the shade under the trees that grow among the rocks along the river.

Early in the afternoon we camped at the foot of the first of twelve great kihams which must be passed before arriving at Djudjang, the rattan gatherers' camp. During a heavy shower a Penyahbong went into the jungle with his sumpitan and returned with a young rusa, quarters of which he presented to Mr. Loing and myself. Bangsul had travelled here before, and he thought we probably would need two weeks for the journey to Djudjang from where, under good weather conditions, three days' poling should bring us to Tamaloë. He had once been obliged to spend nearly three months on this trip.

We spent one day here, while all our goods were being taken on human backs to a place some distance above the kiham. Four Malays and one Penyahbong wanted remedies for diseases they professed to have. The latter seemed really ill and had to be excused from work. The rest said they suffered from demum (malaria), a word that has become an expression for most cases of indisposition, and I gave them quinine. The natives crave the remedies the traveller carries, which they think will do them good whether needed or not.

Much annoyance is experienced from Malays in out-of-the-way places presenting their ailments, real or fancied, to the traveller's attention. The Dayaks, not being forward, are much less annoying, though equally desirous of the white man's medicine. An Ot-Danum once wanted

PART OF MY PROVISIONS, AT BAHANDANG, BUSANG RIVER

The provisions were carried in tin cans. "R" means rice. The man is one of our Javanese soldiers in undress

DJOBING, OUR EFFICIENT MALAY

PART OF THE EXPEDITION ASCENDING THE BUSANG RIVER

a cure for a few white spots on the finger-nails. In the previous camp a Penyahbong had consulted me for a stomach-ache and I gave him what I had at hand, a small quantity of cholera essence much diluted in a cup of water. All the rest insisted on having a taste of it, smacking their lips with evident relish.

Early next morning the prahus were hauled up the rapids and then loaded, after which the journey was continued through a smiling, slightly mountainous country, with trees hanging over the river. We actually had a course of smooth water, and before us, near the horizon, stretched two long ridges with flat summits falling abruptly down at either side of the river. At two o'clock in the afternoon we reached the foot of two big kihams, and Bangsul considered it time to camp. It must be admitted that the work was hard and progress necessarily slow. Nevertheless, it was so early in the day that I suggested going a little further. Soon, however, seeing the futility of trying to bring him to my way of thinking, I began arrangements for making camp. Better to go slowly than not to travel at all. Close to my tent, growing on low trees, were a great number of beautiful yellow and white orchids.

Toward sunset, Bangsul surprised me by bringing all the men to my tent. He said they wanted to go home because they were afraid I should expect too much of them, as they all wanted to travel plan-plan (slowly). The Penyahbongs before me were of a decent sort, and even the Malays were a little more gentle and honest than usual. Bangsul was "the whole thing," and I felt

myself equal to the situation. This was his first attempt at a strike for higher wages and came unexpectedly soon, but was quickly settled by my offer to raise the wages for the six most useful and strongest men.

After our baggage had been stored above the head of the kihams, and the prahus had been taken up to the same place, we followed overland. As we broke camp two argus pheasants flew over the utan through the mist which the sun was trying to disperse. We walked along the stony course of the rapids, and when the jungle now and then allowed a peep at the roaring waters it seemed incredible that the prahus had been hauled up along the other side. Half an hour's walk brought us to the head of the kihams where the men were loading the prahus that were lying peacefully in still waters. The watchmen who had slept here pointed out a tree where about twenty argus pheasants had roosted.

Waiting for the prahus to be loaded, I sat down on one of the big stones of the river bank to enjoy a small landscape that presented itself on the west side of the stream. When long accustomed to the enclosing walls of the dark jungle a change is grateful to the eye. Against the sky rose a bold chalk cliff over 200 metres high with wooded summit, the edge fringed with sago palms in a very decorative manner. This is one of the two ridges we had seen at a distance; the other is higher and was passed further up the river. From the foot of the cliff the jungle sloped steeply down toward the water. The blue sky, a few drifting white clouds, the beautiful light of the fresh, glorious morning, afforded moments of de-

light that made one forget all the trouble encountered in getting here. It seems as if the places least visited by men are the most attractive.

Four hornbills were flying about. They settled on the branches of a tall dead tree that towered high above the jungle and deported themselves in strange ways, moving busily about on the branch; after a few minutes three of them flew away, the other remaining quietly behind. There are several kinds of hornbills; they are peculiar birds in that the male is said to close with mud the entrance to the nest in the hollow stem of the tree, thus confining the female while she is sitting on her eggs. Only a small hole is left through which he feeds her.

The great hornbill (*rhinoflax vigil*) flies high over the jungle in a straight line and usually is heard before it is seen, so loud is the noise made by the beating of the wings. Its clamorous call is never to be forgotten, more startling than the laughter of the laughing jackass of Australia. The sound inspires the Dayak with courage and fire. When he takes the young out of the nest, later to serve him as food, the parent bird darts at the intruder. The hornbill is an embodiment of force that may be either beneficent or harmful, and has been appropriated by the Dayaks to serve various purposes. Wooden images of this bird are put up as guardians, and few designs in textile or basket work are as common as that of the tingang. The handsome tail feathers of the rhinoceros hornbill, with transverse bands of alternate white and black, are highly valued; the warriors attach

them to their rattan caps, and from the solid casque with which the beak of the giant species is provided, are carved the large red ear ornaments. Aided by the sumpitan the Dayaks and Punans are expert in bringing down the rather shy birds of the tall trees.

Three hours later we had managed to carry all our goods above the kiham Duyan, which is only one hundred metres long, but with a fall of at least four metres; consequently in its lower part it rushes like a disorderly waterfall. It took the men one and a half hours to pull the empty prahus up along the irregular bank, and I stood on a low rock which protruded above the water below the falls, watching the proceedings with much interest. The day was unusually warm and full of moisture, as, without hat, in the burning sun I tried for over an hour to get snapshots, while two kinds of bees, one very small, persistently clung to my hands, face, and hair.

The journey continued laborious; it consisted mostly in unloading and reloading the prahus and marching through rough country, now on one side of the river, now on the other, where the jungle leeches were very active and the ankles of the men were bleeding. At times the prahus had to be dragged over the big stones that form the banks of the river. It was easy to understand what difficulties and delays might be encountered here in case of much rain. But in spite of a few heavy showers the weather favoured us, and on the last day of the month we had successfully passed the rapids. Next morning, after pulling down my tent, the Penyahbongs placed stray pieces of paper on top of the remaining tent-poles as a sign of joy that the kihams were left

behind. There still remained some that were obstinate on account of low water, but with our experience and concerted action those were easily overcome, and early in the afternoon we arrived at Djudjang, a rough, unattractive, and overgrown camp, where I decided to stay until next morning. Many Malays die from beri-beri, but there is little malaria among those who work in the utan of the Busang River. The half dozen men who were present were certainly a strong and healthy-looking lot. One of them, with unusually powerful muscles and short legs, declined to be photographed.

Our next camp was at a pleasant widening of the river with a low-lying, spacious beach of pebbles. I pitched my tent on higher ground on the edge of the jungle. Some of the Penyahbongs, always in good humour and enjoying themselves, went out with sumpitans to hunt pig, and about seven o'clock, on a beautiful starlit night, a big specimen was brought in, which I went to look at. While one man opened it by cutting lengthwise across the ribs, another was engaged taking out the poison-carrying, triangular point. With his knife the latter deftly cut all around the wound, taking out some flesh, and after a little while he found part of the point, then the rest. It looked like glass or flint and had been broken transversely in two; usually it is made of bamboo or other hard wood.

The bladder was carefully cut out, and a man carried it off and threw it away in order that the hunters should not be short of breath when walking. The huge head, about fifty centimetres long, which was bearded and had a large snout, was cut off with part of the neck and car-

ried to one of the camps, with a piece of the liver, which is considered the best part. I had declined it, as the meat of the wild pig is very poor and to my taste repulsive; this old male being also unusually tough, the soldiers complained. The following morning I saw the head and jaws almost entirely untouched, too tough even for the Penyahbongs.

Next day the river ran much narrower and between rocky sides. In the forenoon the first prahu came upon an otter eating a huge fish which the strong animal had dragged up on a rock, and of which the men immediately took possession. It was cut up in bits and distributed among all of them, the otter thus saving the expedition thirty-two rations of dried fish that evening and next morning. To each side of the head was attached a powerful long spine which stood straight out. The natives called the fish kendokat.

At one place where the water ran smoothly, one man from each prahu pulled its rattan rope, the rest poling. I saw the Penyahbong who was dragging my prahu suddenly catch sight of something under the big stones over which he walked, and then he stopped to investigate. From my seat I perceived a yellowish snake about one and a half metres long swimming under and among the stones. A man from the prahu following ours came forward quickly and began to chase it in a most determined manner. With his right hand he caught hold of the tail and twisted it; then, as the body was underneath the junction of two stones, with his left hand he tried to seize the head which emerged on the other side. The snake was lively and bit at his hand furiously, which he

TAMALOË, A LATELY FORMED PENYAHBONG KAMPONG

PISHA, THE GOOD PENYAHBONG CHIEF. TAMALOË

did not mind in the least. Others came to his assistance and struck at its head with their paddles, but were unable to accomplish their purpose as it was too well entrenched.

A splendid primitive picture of the savage in pursuit of his dinner, the Penyahbong stood erect with his back toward me, holding the tail firmly. After a few moments he bent down again trying in vain to get hold of its neck, but not being able to pull the snake out he had to let the dainty morsel go. Later we saw one swimming down the current, which the Penyahbongs evidently also would have liked a trial at had we not already passed the place.

The river widened out again, the rocks on the sides disappeared, and deep pools were passed, though often the water ran very shallow, so the prahus were dragged along with difficulty. Fish were plentiful, some astonishingly large. In leaping for something on the surface they made splashes as if a man had jumped into the water. On the last day, as the morning mist began to rise, our thirty odd men, eager to get home, poling the prahus with long sticks, made a picturesque sight. In early March, after a successful journey, we arrived at Tamaloë, having consumed only fourteen days from Bahandang because weather conditions had been favourable, with no overflow of the river and little rain. It was pleasant to know that the most laborious part of the expedition was over. I put up my tent under a large durian tree, which was then in bloom.

CHAPTER XVII

THE PENYAHBONGS, MEN OF THE WOODS—RHINOCEROS HUNTERS—CHARACTERISTICS OF THE PENYAHBONGS —EASY HOUSEKEEPING—DAILY LIFE—WOMAN'S LOT

THE Penyahbongs until lately were nomadic people, roaming about in the nearby Müller mountains, subsisting on wild sago and the chase and cultivating some tobacco. They lived in bark huts on the ground or in trees. Some eight years previous to my visit they were induced by the government to form kampongs and adopt agricultural pursuits, and while most of them appear to be in the western division, two kampongs were formed east of the mountains, the Sabaoi and the Tamaloë, with less than seventy inhabitants altogether. Tamaloë is the name of an antoh (spirit) who lived here in the distant past.

The kampong consists of four small, poorly built communal houses, and of the Malays who have settled here, in houses of their own making, the most important is Bangsul, who married a daughter of Pisha, the Penyahbong chief. Both before and since their transition to sedentary habits the Penyahbongs have been influenced by the Saputans, their nearest neighbours, four days' journey to the north, on the other side of the water-shed. Their ideas about rice culture and the superstitions and festivals attending it, come from the Saputans, of whom also a few live in Tamaloë. They have only recently learned to swim and many do not yet know how to paddle.

It may be of some interest to note the usual occurrence of rain at this kampong as gathered from native observation. April–July there is no rain; August–October, little; November and December have a little more; January much; February and March less.

Every evening as long as we remained here Pisha, the chief, used to sing, reciting mythical events, thereby attracting good antohs (spirits) and keeping the evil ones away, to the end that his people might be in good health and protected against misfortune. His efforts certainly were persevering, and he had a good voice that sounded far into the night, but his songs were of such an extraordinarily melancholy character that it still makes me depressed to remember them. He was an amiable man, whose confidence I gained and who cheerfully gave any information I wanted. Of his five daughters and three sons only the youngest daughter, who was not yet married, was allowed to pronounce Pisha's name, according to custom. Nor was it permissible for his sons-in-law to give me the name, still less for him to do so himself.

After Mr. Demmini's departure all the photographing fell upon me, to which I had no objection, but it was out of the question also to do developing, except of the kodak films, and as the lieutenant, who had done some before, thought he could undertake it, the matter was so arranged. The first attempts, while not wholly successful, were not discouraging, and as time went on the lieutenant turned out satisfactory results. We had a couple of days' visit from the kapala of Sebaoi, a tall and nervous-looking Penyahbong, but friendly, as were the rest of them. I

was then engaged in photographing and taking anthropometric measurements of the gently protesting natives, to whose primitive minds these operations appear weirdly mysterious. At first the kapala positively declined to take any part in this work, but finally reached the conclusion that he would be measured, but photographed he could not be, because his wife was pregnant. For that reason he also declined a glass of gin which the lieutenant offered him.

The valiant man who had tried to catch the yellow snake on our river voyage called on me with his wife, who knew how to embroider well, and I bought some shirts embellished with realistic representations of animals, etc. The husband had that unsightly skin disease (*tinea imbricata*) that made his body appear to be covered with half-loose fish scales. Next day, to my amazement, he had shed the scales. The previous night he had applied a remedy which made it possible to peel the dead skin off, and his face, chest, and stomach were clean, as were also his legs and arms. His back was still faulty because he had not had enough of the remedy, but he was going to tackle the back that evening. The remedy, which had been taught them by the Saputans, consists of two kinds of bark and the large leaves of a jungle plant with red flowers, one of which was growing near my tent.

All the tribes visited by me suffer more or less from various kinds of skin diseases caused by micro-parasitic animals, the Kenyahs and Oma-Sulings in a much less degree. The most repulsive form, just described, does

not seem to interfere with general health. Three of my Kayan carriers thus affected were more muscular and stronger than the rest. One of them was the humorous member of the party, always cutting capers and dancing. Women are less affected than men, and I often saw men with the disfiguring scaly disease whose wives were evidently perfectly free from it.

A party of six fine-looking Penyahbongs were here on a rhinoceros hunting expedition. They came from the western division, and as the rhino had been nearly exterminated in the mountain ranges west and northwest of Tamaloë, the hunters were going farther east. Such a party carries no provisions, eating sago and animals that they kill. Their weapons are sumpitans and parangs, and equipment for stamping sago forms part of their outfit. The rhino is approached stealthily and the large spear-point on one end of the sumpitan is thrust into its belly. Thus wounded it is quite possible, in the dense jungle, to keep in touch with it, and, according to trustworthy reports, one man alone is able in this way to kill a rhino. It is hunted for the horn, which Chinamen will buy.

At my request two of the hunters gave war-dances very well, taking turns. Their movements were graceful, and in the moonlight they appeared sinuous as serpents. The same dance obtains in all the tribes visited, and the movement is forward and back, or in a circle. It was performed by one man who in a preliminary way exercised the flexible muscles of the whole body, after which he drew his sword, seized the shield which was lying on

the ground and continued his dancing more vigorously, but with equal grace. Pisha, the chief, came to the dance, and the meeting with the new arrivals, though silent and undemonstrative, was decidedly affectionate, especially with one of them who was a near relative. Half embracing each other, they stood thus at least a minute.

The Penyahbongs have rather long legs, take long paces, putting down their heels first. They have great endurance and can walk in one day as far as a Malay can in three. In the mountains the cold weather prevented them from sleeping much. It often happened that they were without food for three days, when they would drink water and smoke tobacco. Trees are climbed in the jumping way described before, and without any mechanical aid. Formerly bathing was not customary. Excrements are left on the ground and not in the water. They don't like the colour red, but prefer black. Fire was made by flint and iron, which they procured from the Saputans.

The hair is not cut nor their teeth. The women wear around the head a ring of cloth inside of which are various odoriferous leaves and flowers of doubtful appreciation by civilised olfactory senses. A strong-smelling piece of skin from the civet cat is often attached to this head ornament, which is also favoured by natives on the Mahakam.

In regard to ear ornamentation the Penyahbongs are at least on a par with the most extreme fashions of the Dayaks. The men make three slits in the ear; in the upper part a wooden disk is enclosed, in the middle the

PENYAHBONG RHINO HUNTERS. TAMALOË

The sumpitan, or blowpipe, to which a spear-point is lashed, is their principal weapon. The bamboo casks, hanging at the side, contain the poisonous darts

PENYAHBONG WOMEN. TAMALOË

The skirts are bought from Malay traders

BACK VIEW OF THE PENYAHBONG WOMEN, SHOWING THEIR HEAD-DRESS

tusk of a large species of cat, and in the lobe, which is stretched very long, hangs a brass coil. The ears of the women have only two incisions, the one in the middle part being adorned with bead strings, while in the lobe up to one hundred tin rings may be seen. They are tatued, and noticeable on the men is a succession of stars across the chest, as if hanging on a thread which is lower in the middle. The stars symbolise the fruits of durian. The colour of the tatuing is obtained from damar.

Formerly they wore scanty garments of fibre, the man wearing only a loin cloth, and in case of cold weather a piece of the same material covered the shoulders and back. The woman had a short skirt folded together at the back, and both sexes used rattan caps. Besides sago their main subsistence was, and still is, all kinds of animals, including carnivorous, monkeys, bears, snakes, etc. The gall and urine bladder were universally thrown away, but at present these organs from bear and large snakes are sold to traders who dispose of them to Chinamen. Formerly these people had no salt.

No cooking utensils were employed. Sago was wrapped in leaves and placed on the fire, and the meat was roasted. There is no cooking separately for men and women, and meals are taken irregularly, but usually twice a day. The crocodile is not eaten, because it would make one mad, nor are domestic dogs or omen birds used for food. Honey is collected by cutting down the tree. Their principal weapon is the sumpitan, which, as usual, with a spear point lashed to one end, also serves as spear and is bought from the Saputans. Parang and shield

complete the man's outfit. On the Busang only ten ipoh (upas) trees are known from which poison may be obtained for the blow-pipe darts; to get a new supply a journey of two days down the river is necessary, and six for the return.

Except for a few cases of malaria, among the Penyahbongs there is no disease. In 1911 the cholera epidemic reached them, as well as the Saputans. Of remedies they have none. At the sight of either of the two species of venomous snakes of the king cobra family this native takes to his heels, and if bitten the wound is not treated with ipoh. Until recently they had no blians; there were, at this time, two in Tamaloë, one Saputan and one Malay, and the one in the other kampong learned his art from the Saputans. One man does not kill another, though he may kill a member of the Bukat tribe, neighbouring nomads who live in the northeast of the western division, in the mountains toward Sarawak. Suicide is unknown. It was asserted to me that the Penyahbongs do not steal nor lie, though I found the Saputans untrustworthy in these respects.

There is no marriage ceremony, but the young man must pay the parents of the bride one gong (f. 30), and if the girl is the daughter of a chief her price is six gongs. About half of the men select very youthful wives, from eight years up. There are boys of ten married to girls of a similar age. One boy of fourteen was married to a girl of twenty. Children of the chief being much sought, one of Pisha's daughters, twenty-three years old, had been disposed of when she was at her mother's breast,

her future husband being twenty at that time. Upon reaching womanhood she did not like him at first, and for five years declined to share the mat with him. Recently, however, she had begun to associate with him, and they had one child. The children are not beaten, are left to pick up by themselves whatever knowledge is necessary, and when the boy is ten years old he can kill his babi with a sumpitan. The parents of young girls do not allow them to be too intimate with young men.

A pregnant woman must not eat durian which, in falling from the tree, has broken, or stuck in a cleft without reaching the ground, nor any kind of fruit that does not fall straight to earth, nor sago from a palm tree which chanced to become entangled by a branch instead of falling directly to the ground, nor the large hornbill, nor snakes, nor pigs, nor fish that were killed by being struck on the head, or by any other means than with spear or parang, nor land turtle, nor the scaly ant-eater. She must not make a house or take part in making it, and therefore if a pole has to be put in place she must call another woman to do it.

Further, she must not eat an animal which has lost one or both eyes, nor one the foot of which has been crushed, nor an animal of strong odour (like civet cat, skunk, etc., not an offensive smell to these natives); nor are she and her husband permitted to gather rubber, nor may wood be gathered for fire-making which has roads on it made by ants. She must not drink water from a back current, nor water which runs through a fallen tree. A pig may be eaten, but if it has a fœtus inside that must

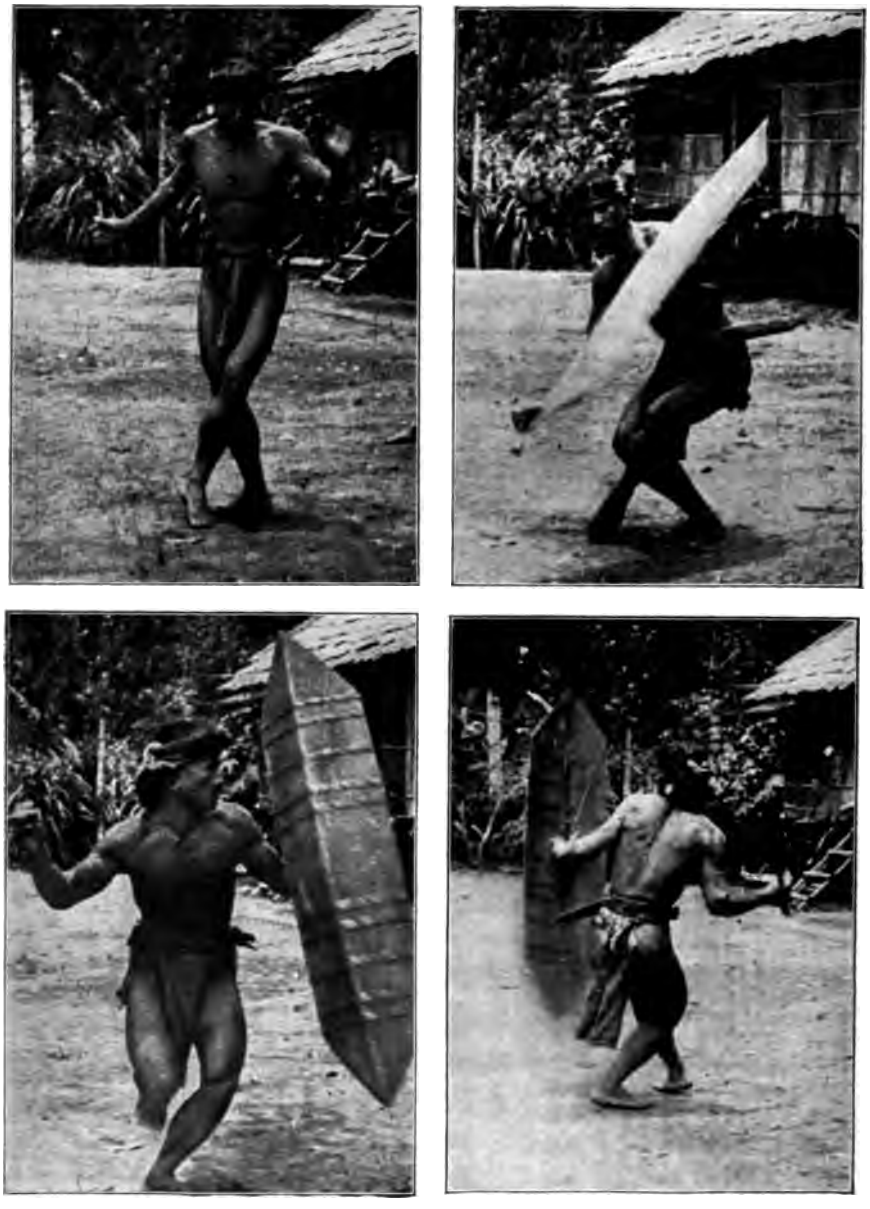
be avoided. The husband also observes all these tabus and precautions.

The Penyahbongs rise before dawn. Fire is made, primitive man's greatest comfort, and they seat themselves before it awaiting daylight, the woman brings her child near it, and all smoke strong native tobacco. Without first eating, the man goes out to hunt for animals, usually alone, but if two or three go together they later separate. The hunter leaves his parang at home, taking only the sumpitan. He may not return until the afternoon. Small game he carries home himself, but when a large animal has been killed, as wild pig, deer, bear, large monkey, he will leave it in the utan for his wife to bring home. In case of a rhino being slain he will remove the horn, but the woman will cut up the animal and take it home, unless it is too late, when she postpones the task until the next morning.

The husband is fond of singing, and, accompanying himself by striking the rattan strings attached to the back of a shield, he may occupy himself in this way until the small hours of the morning. Women make mats in the evening, or do work of some kind, and the young people may play and sing for a while, or they may listen to the singing of the lord of the household; but gradually all go to sleep except the wife.

Besides the small knife for splitting rattan, which is the special implement of the Dayak woman, the fair sex of the Penyahbongs has a parang, a spear, an axe, a bone implement used in working rattan mats, and a rattan bag which is carried on the back. The women in several

PENYAHBONG, FRONT, SIDE, AND BACK VIEW. TAMALOË



THE PENYAHBONG WAR DANCE. TAMALOË

This dance is practised by many Dayak tribes

From a kinematograph film

Dayak tribes also possess such feminine accessories. With the Penyahbongs the male chiefly hunts, the female doing all the work. She makes the house, cuts the sago palm, and prepares the sago. When setting forth to bring home the animal killed by her husband she carries her own parang with which to cut it up, placing it inside the rattan bag on her back. With one or two other women she may go out with the dogs to kill wild pigs with a spear. When searching for the many kinds of fruit found in the utan her own axe is carried with which to cut the tree down, for she never climbs to pick the fruit. As for the durian, she waits until it falls ripe to the ground. The woman also brings water and firewood, does all the cooking, and then calls her husband that he may eat. Basketry is not known, but the rattan mat and the mat of palm leaves on which these natives sleep are nicely made by the women, who also manufacture the large mat on which the stamping of sago, by human feet, is performed. In changing abode women carry everything, the men conveying only the sumpitan and the darts, probably also a child that is big enough to walk, but the small child the woman always carries. If the men go to war the women remain behind and defend themselves if attacked.

Although the woman thus bears an absurdly large share of the family burden, nevertheless it cannot be said that her lot is an unhappy one, because she is not the slave of the man, as is the case, for instance, with the Australian savages. From time immemorial their society has known no other conditions, and the married couples are generally happy. Both of them treat their children with affection,

and though the husband may become angry, he only uses his tongue, never strikes her, and he has no polygamous inclinations. Divorces, though permissible, do not occur, because there is a natural feeling against illicit relations with the husband or wife of another. Moreover, the rest of the community would resent it. Bangsul, who had been there seven years, had never heard of divorce.

When a man is near death his family and others gather around him to see him die, but without attempt to restore him to health. When dead his eyes are closed, he is washed, and a new chavat of fibre as well as a new shirt of the same material is given him. Tobacco is put in his mouth, four cigarettes on his abdomen, and on his chest and stomach are placed sago and cooked wild pig or some other meat for him to eat. Four bamboos filled with water are set upright near by. His sumpitan with its darts, poison for the darts, the parang, shield, and his musical instruments if he has any—in short, one sample of everything he had is laid down by his side. What little else may be left goes to the widow. When a woman dies she is treated in the same way, but the nose flute is the only instrument that accompanies her.

A tree is cut down and from the log a dugout is made in which the corpse is placed, a board being loosely fastened as a cover. This coffin is placed on a simple platform in the utan. There is no feast attending this rite. I visited the burial-place (taaran) of Tamaloë on the other side of the river about a kilometre away. It was difficult to find, for the small space which is cleared of jungle

whenever there is a funeral very soon grows up again. Only two boxes, each containing the corpse of a child, were in good condition, the rest having fallen down and disappeared through the action of rains and wild pigs.

After the husband's death the widow eats only every second day for a month; after that she is free to eat, but for a year she weeps twice a day, morning and evening,—though sometimes she forgets. The father, mother, and sister of the deceased also take part in the one-year period of wailing twice a day. After that period has elapsed the widow may remarry. For the widower there are practically the same regulations, though he does not weep loudly, and after eight months he can look for another wife; but first he must have taken a head.

heavily loaded craft take water. In Borneo it usually requires as many days to get up-stream as it takes hours to come down.

We stayed for the night at a former camping place of rattan seekers, a small, narrow clearing on the river brink, on which tents and sheds were huddled closely together in the way military men prefer when travelling in the utan. The paddlers had asked us to be ready at daylight, but at seven o'clock in the chilly and very foggy morning they were still warming themselves around the fire. An hour later, when we had finished loading the prahus, the river began to rise incredibly fast, at the rate of ten centimetres per minute in the first six minutes, and in two hours and a quarter it had risen 2.30 metres, when it became steady. In the meantime we had remade our camp, hoping that the river might permit us to travel next day. Three of the Penyahbongs went out hunting with the only sumpitan we had, and shortly afterward returned with a pig.

Early in the afternoon we were much surprised by the appearance of a prahu with three Dayaks who had a dog and a sumpitan and brought a pig which they had killed in the morning. They were the chief, with two companions, from Data Láong on the Kasao River for which we were aiming. The rumour of our party had reached his ears, and with thirty men he had been waiting for us on this side of the watershed. Their scanty provisions soon ran out, and after waiting nine days all had returned home except the present party, whom we welcomed. The new men proved a valuable addition to our

crew. The kapala, who was attached to my prahu, was active and gave his orders as if he knew how, a great relief from a weak Malay that hitherto had been at "the helm." When the men with the poles were unable to move the boat against the current, the small, but strongly built man, with a few very powerful pushes, would bring it forward, making it vibrate by his strength.

At Tamaloë animals and birds were not plentiful, the call of the wah-wah usually imparting a little life to the mornings; and I once heard a crow. I do not remember to have seen on the whole Busang River the most familiar of all birds on the Bornean rivers, an ordinary sandpiper that flits before you on the beach. Birds singing in the morning are always rare except in the localities of paddi fields. The one most likely to attract attention on a forenoon is the giant hornbill, and as we advanced up the Busang its laugh might still be heard. Much more unusual was the call of some lonely argus pheasant or a crow. A few of the beautiful white raja birds were observed.

Wild pigs and deer continued plentiful, but the monkeys seemed gradually to disappear. Fish there were in plenty, but they were now of smaller kinds, not agreeable to eat, having an oily taste and mostly very bony. At all our camping places ants of various kinds were numerous, also inside of the tent, but they did not seem to be obnoxious. Just before sunset the loud voices of the cicadas began, and after dark lovely moths were attracted by my lamp, while during the night bats flew in and out of my tent. The humidity of the atmosphere was great.

Safety matches would not strike fire unless kept in an air-tight box. My cameras were inside of solid steel boxes, provided with rubber bands against the covers, making them water-tight. Nevertheless, upon opening one that had been closed for three weeks the camera inside was found to be white with mould.

It was rough and hard travelling on account of incessant low kihams to be passed, or banks of small stones over which the prahus had to be dragged. The Penyahbongs had not yet learned to be good boatmen, often nearly upsetting the prahu when getting in or out. Occasionally long quiet pools occurred, and the scenery here was grand and thrilling. Graceful trees of infinite variety bent over the water, bearing orchids of various colours, while creepers hung down everywhere, all reflected in a calm surface which seldom is disturbed by the splashing of fish. The orchids were more numerous than I had ever seen before. A delicate yellow one, growing in spikes, had a most unusual aromatic fragrance, as if coming from another world.

In the morning a curtain of fog lies over the landscape, but about nine o'clock it begins to lift, and creeping up over the tree-tops gradually dissolves in the sun-light, while between the trees that border the river the deep-blue sky appears, with beautiful small cumulus clouds suspended in the atmosphere. With the exception, perhaps, of a large blue kingfisher sitting in solitary state on a branch extending over the water, or a distant hornbill with its cheerful grandiose laugh, there are no evidences of animal life, nevertheless the exquisite

scenery seems to lure the beholder on and on. To pass through this superb and silent realm was like a pleasant dream. There are no mosquitoes and consequently no malaria.

We were progressing through a country of which little is known accurately beyond its somewhat hilly character, and the fact that it is uninhabited except for small transient parties of Malays searching for rattan or rubber. The upper part of our route to the divide, a comparatively short distance, had not, to my knowledge, been traversed by white men before. Errors were corrected on the map of the watershed region.

One day at noon, while we were waiting for the largest prahu to overtake us, fresh tracks of pig were discovered on the bank, and the Saputan dog, a very wise animal, was landed. A few minutes later he began the peculiar barking which indicated that he had caught the scent, and one man seized a sumpitan and ran off into the utan as fast as his legs could carry him, holding the weapon in his right hand in a horizontal position, spear end first. It sounded as if the dog might be holding the pig in the water a little higher up, but this was soon found to be a mistake when the barking was heard close by. The Saputan kapala then jumped from my prahu, drew his parang, and with wonderful elastic movements disappeared in the utan. Two or three minutes later they returned, one man bearing in his arms a scarcely half-grown live pig, which had been hit by the sumpitan. The whole affair lasted barely ten minutes.

At another place, where we were again waiting for

the big prahu, the Penyahbongs amused themselves with wrestling in water up to their shoulders. After some dancing around, the fight would invariably finish by both disappearing and after a few seconds coming to view again. This caused much merriment, especially to the wrestlers themselves, who laughed immoderately when reappearing.

We entered the tributary Bulau, and a couple of hours later arrived at its junction with Bakkaang, at the source of which we expected to cross the watershed. The river, which was rather narrow, would be difficult to ascend unless we had showers. Luckily rain fell during the night, and although delayed by trees that had fallen across the stream, which was from six to ten metres wide, we made a good day's work and camped at an attractive old clearing of rattan gatherers.

I spent the next forenoon in an excursion to a place within the jungle, where birds and animals sometimes congregate in great numbers to obtain the salt water which issues from the earth or rocks. This masin (salt water) was known to the Malay rattan seekers in our party, who had snared birds and deer there. In the dry season hundreds of birds of various kinds would gather. By wading up a small stream for twenty minutes we reached a place where water exuded from a rock, especially at its top, and by following the stream upward for another twenty minutes we arrived at the larger one, where the ooze from the rocks overflowed the ground. Only tracks were seen, but our guide said that after three rainless days in succession birds and animals would

be sure to come there. Myriads of yellowish-gray flies covered the ground as well as the rocks, and after having taken some specimens of algæ, also some white gelatinous stuff with which the Malays rub themselves when afflicted with beri-beri, I returned to camp.

In spite of frequent light showers the stream failed to rise appreciably, and our goods had to be carried on the back of the men to our next camping place. The following morning we started in a heavy rain at which we rejoiced, because it enabled us to use our prahus until we reached the foot of the dividing ridge. At noon we arrived in camp, with our clothing thoroughly wet. What the downpour might have left intact the Penyahbongs, forgetting everything but the safety of the prahus, had done their best to drench by splashing water all the time. Just as we had made camp the rain ceased and with it, being near the source of the stream, the overflow too passed away. In dry weather it would be a tedious trip to get up the Bakkaang.

For two days we were busy carrying our goods to the top of the ridge. Neither the Malays nor the Penyahbongs are very strong carriers, and they complained of being stenga mati (half dead) from their exertions. On the third day, when the ascent was to be finished, eight of them complained of being sakit (sick) or played out, and they looked it. Fortunately the Saputan chief, who a few days previously had left us to procure more men, returned with four companions, who came in very opportunely. The ascent is neither long nor difficult, a seldom used path leading across the ridge at the most

convenient place. The elevation above sea level, taken April 2, by boiling point thermometer, was 425 metres (1,394.38 feet), and the ridge seemed to run evenly to either side. The space for a camp was somewhat cramped, and the small yellow bees that are so persistent in clinging to one's face and hands were very numerous; they will sting if irritated. Even the lieutenant, ordinarily impervious to that kind of annoyance, sought the protection of his mosquito net.

The calls of argus pheasant and wah-wah next morning sounded familiar. The north side of the Bukit, or mountain (the name applied by the natives to the ridge), is steeper and rougher than the south side, but the descent presents no difficulties. We followed the small river Brani, most of the time wading it. The distance to the junction of the Brani with the Kasao River * is hardly five hours' walking, but copious showers, which at times changed the river to a torrential stream, interfered with the transportation of our goods, which required five days.

Our friend, the Saputan chief, had materially assisted us, and he was desired to walk down to his kampong—by boat only an hour's journey on the swift current—and bring men and prahus to take us away. He was very willing and exceedingly efficient, but he was also, in his childish way, intent on making as much out of us as possible. He wanted to bring too many prahus and men, for all the male population of the kampong were anxious to get this job, he said. I made him a fair offer,

*Kasao is the Malay name. The Saputans call the river Katju.

SAPUTAN, ON HIS WAY TO THE LADANG (FIELDS) AND FOR THE HUNT OF BABI. DATA LÃONG

SAPUTANS, FRONT AND SIDE VIEWS. DATA LÁONG

The prevalent skin disease may be noticed

and three times he came to tell me that he still had to think over it. Finally, after three hours' deliberation, he accepted my proposition—provided I would pay for two days instead of one! In order to get action, and considering all the days they voluntarily had waited for us at the ridge, I acceded to this amendment and he went away happy.

The men and the prahus came promptly and we began loading; I was glad at the prospect of getting away from the low-lying country, where we had our camp among bamboo trees, with the chance of being flooded should the river rise too high. As we were standing near my tent, getting ready to take it down, a plandok (mouse-deer, *tragulus*) came along—among the Saputans, and probably most Dayaks, reputed to be the wisest and most cunning of all animals, and in folklore playing the part of our fox. It was conspicuously pregnant and passed unconcernedly just back of the tent. As the flesh is a favourite food of both Dayaks and Malays they immediately gave chase, shouting and trying to surround it, which made the plandok turn back; then the wonderfully agile Saputan chief darted after it and actually caught it alive. Extraordinary agility is characteristic of most Dayaks. An army officer in his report of the Katingans describes how a Dayak "suddenly jumped overboard, drew his parang, and with one stroke cut a fish through the middle. Before we knew what had happened the material for our supper was on board."

After a pleasant drifting down the current of the Kasao River, about noon on April 7 we arrived at Data

Láong, a Saputan kampong consisting of three small communal houses. On the river bank a small space had been cleared of grass for my tent. The people seemed very amenable to my purposes and there was a primitive atmosphere at the place. We had used seventeen days from Tamaloë, much in excess of the time calculated, but under unfavourable circumstances we might easily have used double. There was reason to be satisfied at arriving here safely without having incurred any losses. We could look forward with confidence to the remainder of the journey, mainly down the great Mahakam River, toward distant Samarinda, because the Dayaks along the route were very numerous and had plenty of prahus.

CHAPTER XIX

THE SAPUTANS—HOW THE EARS OF THE CHIEF WERE PIERCED—AN UNEXPECTED ATTACK OF FILARIASIS—DEPARTURE FROM THE SAPUTANS—DOWN THE KASAO RIVER—"TOBOGGANING" THE KIHAMS

THE Penyahbongs, men of the jungle, who left us to return home, had not proved such good workers as the Saputans, who, though in a pronounced degree smaller, mostly below medium size, are very strongly built. The first named, nevertheless, are their superiors both physically and morally. The more homely-looking Saputans, though friendly and willing to assist you, try to gain an advantage in bargaining. They set high prices on all things purchased from them and cheat if permitted to do so. Although no case of actual stealing came to my notice, they are dishonest, untruthful, and less intelligent than the tribes hitherto met. The chiefs from two neighbouring kampongs paid us visits, and they and their men made a somewhat better impression, besides having less skin disease.

The Saputans are a crude and somewhat coarse people who formerly lived in caves in the mountains further east, between the Mahakam and the Murung (Barito) Rivers, and migrated here less than a hundred years ago. Lidju, a Long-Glat raja from Batokelau, who at one time was my interpreter and assistant, told me that

the Saputans had made a contract with his grandfather to take them to the Kasao. This report was confirmed by the kapala of Batokelau. The Saputans probably do not number over 500 all told.

The custom of cutting the teeth, eight in upper front and six in the lower jaw, is observed to some extent, but is not regularly practised. Both sexes have shrill, sharp voices. The men admire women who have long hair, light yellow skin, and long extension of the ear-lobes. The women like men to be strong and brave on head-hunting expeditions. Suicide is very rare. They may use ipoh or tuba for the purpose. All animals are eaten without restriction. The men are good hunters and know how to kill the tiger-cat with sumpitan or spear. They also make good, large mats from split rattan, which are spread on the floor, partly covering it. The women make mats from palm leaves, and when the Saputans are preparing for the night's rest the latter kind is unrolled over the rattan variety. Formerly sumpitans were made in sufficient number, but the art of the blacksmith has almost died out, only one remaining at the present time, and most of the sumpitans are bought from the Bukats on the Mahakam River.

There appear to be more men than women in the tribe. Children are wanted, and though the usual number in a family is four, sometimes there is only one. There are no restrictions in diet for a pregnant woman beyond the prohibition of eating of other people's food.

Only when the chief has a wedding is there any festival, which consists in eating. There is no marriage cere-

mony, but having secured the girl's consent and paid her father and mother the young man simply goes to her mat. They then remain two days in the house, because they are afraid of the omen birds. On the third day both go to fetch water from the river and she begins to husk rice. Monogamy is practised, only the chief being allowed to have five or more wives. The very enterprising kapala of Data Láong, to the displeasure of his first wife, recently had acquired a second, the daughter of a Penihing chief. While the payment of a parang may be sufficient to secure a wife from among the kampong people, a chief's daughter is worth ten gongs, and in order to raise the money necessary to obtain the gongs he set all the men of the kampong to work, gathering rattan, for one month. Though each of them received something for his labour, it was less than one-fourth of the amount accruing from the sale of the product, leaving him sufficient to pay the price demanded for the new bride. In Long Iram a gong may be bought for f. 30–80, and for purposes of comparison the fact is mentioned that a Malay usually is required to pay f. 60 to the girl's father to insure his consent to the marriage.

April was rainy, with frequent showers day and night, and thunder was heard every evening. Life there was the same as in most Dayak kampongs, nearly all the people being absent during the day at the ladangs, and in the evening they bring home the roots of the calladium, or other edible roots and plants, which are cooked for food. The paddi had been harvested, but the crop was poor, and therefore they had made no feast. There is no danc-

ing here except war dances. For a generation they have been gathering rubber, taking it far down the Mahakam to be sold. Of late years rubber has nearly disappeared in these parts, so they have turned their attention to rattan.

One day a man was seen running with a sumpitan after a dog that had hydrophobia, and which repeatedly passed my tent. The apparent attempt to kill the animal was not genuine. He was vainly trying to catch it that he might tie its legs and throw it into the river, because the people believe that the shedding of a dog's blood would surely result in misfortune to their health or crops. After three days the dog disappeared.

In Data Láong few were those men, women, and children who had not some form of the skin diseases usual among the Dayaks, which were rendered still more repugnant by their habit of scratching until the skin bleeds. A man and wife whose skin looked dry and dead, the whole body exhibiting a whitish colour, one day came to my tent. Standing, or crouching, before the tent opening they formed a most offensive picture, vigorously scratching themselves, while particles of dead skin dropped in such quantity that after some minutes the ground actually showed an accumulation resembling snow. They were accompanied by a twelve-year-old daughter who, strange to say, had a perfectly clean skin.

The belief about disease and its cure is identical with that of other tribes I have met. The evil antohs are believed to be very numerous in the mountainous region at the headwaters of the Kasao River, from whence

they visit the kampongs, though only the blians are able to see them. The dead person is given new garments and the body is placed in a wooden box made of boards tied together, which is carried to a cave in the mountains, three days' travel from Data Láong. There are many caves on the steep mountain-side and each kampong has its own.

The Saputans were shy about being photographed, but their objections could be overcome by payments of coin. The kapala, always alive to the value of money, set the example by consenting to pose with his family for a consideration of one florin to each. But the risks incurred, of the usual kinds hitherto described, were believed to be so great that even the sum of ten florins was asked as reward in the case of a single man. A prominent man from another kampong was preparing to make holes through the ears of the kapala, and for a compensation I was permitted to photograph the operation, which is an important one. It is the privilege of chiefs and men who have taken heads to wear a tiger-cat's corner tooth inserted in a hole in the upper part of each ear. The operation must not be performed when the man in question has a small child.

Surrounded by four men, the kapala seated himself on the stump of a tree. The hair was first cut away above the ears, a long board was placed upright behind and against his right ear, and the operator adjusted his tool—an empty rifle cartridge of small calibre, which was encased in the end of a small piece of wood. After having carefully ascertained that all was in order he struck the

SAPUTANS POLING. DATA LÁONG

From a kinematograph film

PIERCING THE EARS OF THE SAPUTAN CHIEF IN ORDER TO INSERT A TIGER CAT'S CORNER TEETH. DATA LÁONG

From a kinematograph film

drive the evil one away. Outside on the river bank four stalks of bamboo, which had branches and leaves at the top, were placed in a slanting position. From the stems of these were hung two diminutive bamboo receptacles made in the form of square, stiff mats, on which was placed the mixture of rice and blood for the antoh to eat. Also suspended were two short pieces of bamboo cut open lengthwise so as to form two small troughs, into which a little blood was poured for the same supernatural power to drink.

When all this had been made ready the old blian, accompanied by two young pupils, took position before the sacrifice. For about ten minutes he spoke, with his face to the south, requesting a good antoh to come and the evil one to depart, after which he, the young men, and the kapala, who stood near, all repeatedly threw up rice in a southerly direction. This was done in expectation that the good antoh, having eaten of the sacrifice, would feel disposed to drive the bad one away.

In the middle of April I was seized with an attack of filariasis, a disorder caused by the sting of a certain kind of mosquito. During the day I had felt pain in the glands of the loins, which were swollen, without giving the matter any particular attention. As I am not in the habit of being ill, in fact, so far had prided myself on growing younger each year, this experience of suddenly becoming very weak and miserable was most unexpected. Vomiting set in, so I went immediately to bed, and slept soundly during the night and also most of the next day, when I found myself with an extremely high fever, much more

severe than that which accompanies malaria, a pernicious form of which I once passed through on the west coast of Mexico. Until many months afterward I did not know the nature of my disorder, but resorted to the simple remedy always available—to stop eating, as Japanese soldiers are reported to do when wounded. On the fourth day the fever abated, after which improvement was rapid. Two days later my general condition was fair, although the lower part of the right leg, especially about the ankle, was red and swollen. I soon felt completely restored in spite of the fact that a painless swelling of the ankle remained.

Two months later I had another attack, as sudden and unexpected as the first. This was ushered in by a chill exactly like that preceding malaria, but the fever that followed was less severe than on the former occasion, and in a few days I was well again.

More than a year afterward hypodermic injections of sodium cacodylate were attempted with apparent success, though the swellings continued. Many months later an improvement in the condition of the leg was gradually brought about, to which perhaps a liberal consumption of oranges separate from meals, largely contributed. This affection is not common in Borneo. A native authority in Kasungan, on the Katingan River in South Borneo, himself a Kahayan, told me of a remedy by which he and eight other natives had been completely cured. It is a diffusion from three kinds of plants, applied externally, samples of which I took.

On the last day of April we were able to continue our

journey down the Kasao River, in seven prahus with twenty-eight men, twenty-four of whom were Penihings, who, with their raja, as the chiefs are called on the Mahakam, had arrived from below by appointment. Owing to my recent distressing experience I was not sorry to say farewell to Data Láong, where the women and children were afraid of me to the last, on account of my desire to have them photographed. The Saputans are kind, but their intellect is of a low order, and the unusual prevalence of skin disease renders them unattractive though always interesting subjects.

A glorious morning! The river, running high and of a dirty yellowish-green colour, carried us swiftly with the current in the cool atmosphere of the morning mist which the sun gradually cleared away. Repeatedly, though for a few moments only, an enchanting fragrance was wafted to me from large, funnel-shaped, fleshy white flowers with violet longitudinal stripes that covered one of the numerous varieties of trees on our way. Many blossoms had fallen into the water and floated on the current with us. It was a pleasure to have again real Dayak paddlers, which I had not had since my travels in the Bulungan.

We dashed through the tall waves of many smaller rapids and suddenly, while I was having breakfast, which to save time is always taken in the prahus, I found myself near what appeared to be a rapidly declining kiham. A fathomless abyss seemed yawning before us, although the approach thereto was enticing, as the rushing waters turned into white foam and played in the strong sunlight. We passed a timid prahu which was waiting at one side

kiham in succession awaited us, and after some moments of comparative quiet we again dashed down into turbulent waves, and making a swift turn to the right on a downward grade glided into smoother waters. The excitement was over and the experience had been as delightful as it was unexpected. It reminded one of tobogganing in Norway and was great fun, although the enjoyment was always mingled with feelings of anxiety concerning the cameras and instruments.

The luggage was unloaded from the prahus which were waiting at the head of the last rapids, and was carried on the backs of natives who afterward took the empty boats down. Although the men had worked incessantly for nine hours, on the advice of the chief it was decided to proceed to Samariting, the first Penihing kampong. Half the goods was stored near the beach, to be called for the following day, and the now comfortably loaded prahus made ready for the descent of the next rapids, which he said were risky. He therefore was going to walk himself and advised us to do likewise. Rain began to fall. On the high river bank I waited to see them off. The first prahu had to return and take another course; the men all seemed to be hesitating. Finally it made a fresh dash forward. Near the end of the long rapids it almost disappeared from view, appeared again, steering first to right then rapidly to left again. There was the dangerous place, and having in this manner seen most of them pass successfully, I walked on and shortly afterward boarded my prahu, which carried us swiftly down to Samariting.

The river bank on which the kampong is built is lower than usual, and the place is clean and attractive. All the people look strikingly more healthy than the Saputans, and I saw a few very nice-looking young girls. The men swarmed round me like bees, all wanting in a most amiable way to help put up my tent. During the day I had lost the cover of my red kettle—annoying enough when it cannot by any means be replaced—but even a more serious loss would have been compensated by the delightful experience of the day, which was without other mishaps.

Our goods having been safely brought in, the next day about noon we started in fully loaded prahus. All went well with the exception of one of the smaller boats which, timidly working down along the bank, suddenly turned over and subsided on a rock. The men did their best to save the contents, the rapid current making it impossible for us to stop until we were a hundred metres further down, where the Dayaks made ready to gether up boxes and other articles that came floating on the current. Nothing was lost, but everything got wet.

CHAPTER XX

ARRIVAL ON THE MAHAKAM RIVER—AMONG THE PENIHINGS —LONG KAI, A PLEASANT PLACE—A BLIAN'S SHIELD— PUNANS AND BUKATS, SIMPLE-MINDED NOMADS—EXTREME PENALTY FOR UNFAITHFULNESS—LONG TJEHAN

A FEW minutes later we came in sight of the Mahakam River. At this point it is only forty to fifty metres wide, and the placid stream presented a fine view, with surrounding hills in the distance. In the region of the Upper Mahakam River, above the rapids, where we had now arrived, it is estimated there are living nearly 10,000 Dayaks of various tribes, recognised under the general name Bahau, which they also employ themselves, besides their tribal names.

The first European to enter the Mahakam district was the Dutch ethnologist, Doctor A. W. Nieuwenhuis, at the end of the last century. He came from the West, and in addition to scientific research his mission was political, seeking by peaceful means to win the natives to Dutch allegiance. In this he succeeded, though not without difficulty and danger. Although he was considerate and generous, the Penihing chief Blarey, apprehensive of coming evil, twice tried to kill him, a fact of which the doctor probably was not aware at the time. Kwing Iran, the extraordinary Kayan chief, knew of it and evidently prevented the plan from being executed. Blarey did not like to have Europeans come to that

country, which belonged to the natives, as he expressed it.

The Penihing kampong, Sungei Lobang, was soon reached. It is newly made, in accordance with the habit of the Dayaks to change the location of their villages every fourteen or fifteen years, and lies on a high bank, or rather a mud-ridge, which falls steeply down on all sides. It was the residence of the chief and the Penihings who brought us here, and if conditions proved favourable I was prepared to make a stay of several weeks in this populous kampong, which consists of several long, well-constructed buildings. The Dayaks assisted in putting up my tent, and of their own accord made a low palisade of bamboo sticks all around it as protection against the roaming pigs and dogs of the place. It proved of excellent service, also keeping away the obnoxious fowls, and during the remainder of my travels this measure of security, which I adopted, added considerably to my comfort. On receiving their payment in the evening the Dayaks went away in bad humour because they had expected that such a tuan besar as I was would give them more than the usual wages allowed when serving the Company, as the government is called. This tuan, they said, had plenty of money to boang (throw) away, and he had also a good heart.

Otherwise, however, these natives were kindly disposed and more attractive than either of the two tribes last visited. In husking rice the Penyahbongs, Saputans, and Penihings have the same method of gathering the grains back again under the pestle with the hands in-

stead of with the feet, as is the custom of the Kenyahs and Kayans. All day there were brought for sale objects of ethnography, also beetles, animals, and birds. Two attractive young girls sold me their primitive necklaces, consisting of small pieces of the stalks of different plants, some of them odoriferous, threaded on a string. One girl insisted that I put hers on and wear it, the idea that it might serve any purpose other than to adorn the neck never occurring to them. Two men arrived from Nohacilat, a neighbouring kampong, to sell two pieces of aboriginal wearing apparel, a tunic and a skirt. Such articles are very plentiful down there, they said, and offered them at an astonishingly reasonable price.

Malay is not spoken here, and we got on as best we could—nevertheless the want of an interpreter was seriously felt. The chief himself spoke some and might have served fairly well, but he studiously remained away from me, and even took most of the men from the kampong to make prahus at another place. I was told that he was afraid of me, and certainly his behaviour was puzzling. Three months later I was enlightened on this point by the information that he had been arrested on account of the murder by spear of a woman and two men, a most unusual occurrence among Dayaks, who, as a rule, never kill any one in their own tribe. With the kampong wellnigh deserted, it soon became evident that nothing was to be gained by remaining and that I would better change the scene of my activities to Long Kai, another Penihing kampong further down the river.

A small garrison had been established there, and by

MAHAKAM RIVER, WESTWARD VIEW, FROM THE AUTHOR'S TENT, AT LONG KAI

PENIHINGS, THE KAPALA OF LONG KAI AND HIS CHILDREN

sending a message we secured prahus and men, which enabled us to depart from our present encampment. There were some rapids to pass in which our collector of animals and birds nearly had his prahu swamped, and although it was filled with water, owing to his pluck nothing was lost. At Long Kai the lieutenant and Mr. Loing put up a long shed of tent material, while I placed my tent near friendly trees, at the end of a broad piece of road on the river bank, far enough from the kampong to avoid its noises and near enough to the river to enjoy its pleasant murmur.

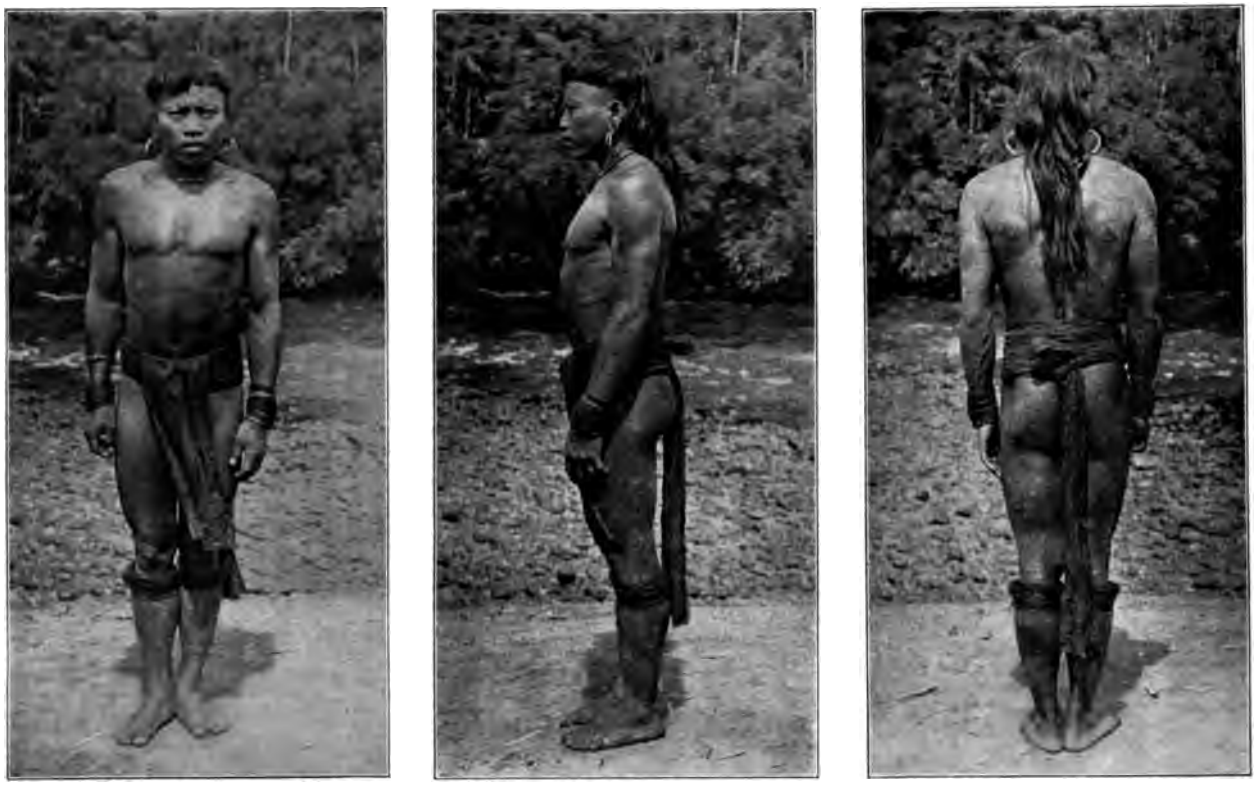
When going to their ladangs in the morning the Dayaks passed my tent, thence following the tiny affluent, Kai, from which the kampong received its name. Under the trees I often had interviews with the Penihings, and also with the nomadic Bukats and Punans who had formed settlements in the neighbouring country. Some of them came of their own accord, others were called by Tingang, the kapala of Long Kai, who did good service as interpreter, speaking Malay fairly well. From my tent I had a beautiful view of the river flowing between wooded hills, and the air was often laden with the same delicious fragrance from the bloom of a species of trees which I had observed on the Kasao River. Here, however, the odour lasted hours at a time, especially morning and evening. On the hills of the locality grow many sago palms, to which the natives resort in case rice is scarce.

It was quite agreeable to see a flag again, the symbol of the Dutch nation being hoisted every day on the hill where the military encampment was located, usually

which is held in upright position, and he strikes either with right or left hand. He had scarcely performed a minute when a change came over him. He stamped one foot violently upon the floor, ceased playing, and seemed to be in a kind of trance, but recovered himself quickly. A good antoh, one of several who possessed him, had returned to him after an absence and had entered through the top of his head. So strong is the force of auto-suggestion.

It was a matter of considerable interest to me to meet here representatives of two nomadic tribes of Borneo who had formed small settlements in this remote region. I had already made the acquaintance of the Punans in the Bulungan, but as they are very shy I welcomed the opportunity of meeting them on more familiar terms. For more than a generation a small number has been settled at Serrata, six hours walking distance from Long Kai. The other nomads, called Bukats, from the mountains around the headwaters of the Mahakam, have lately established themselves on the river a short distance above its junction with the Kasao; a few also live in the Penihing kampong Nuncilao. These recent converts from nomadic life still raise little paddi, depending mostly upon sago. Through the good offices of the Long Kai kapala people of both tribes were sent for and promptly answered the call. The Punan visitors had a kapala who also was a blian, and they had a female blian too, as had the Bukats.

The Punans are simple-minded, shy, and retiring people, and the other nomads even more so. The first-named



BUKIT, AT LONG KAI, FRONT, SIDE, AND BACK VIEWS

BUKIT WOMEN, AT LONG KAI, FRONT AND SIDE VIEWS

are more attractive on account of their superior physique, their candid manners, and somewhat higher intellect. The natural food of both peoples is serpents, lizards, and all kinds of animals and birds, the crocodile and omen birds excepted. With the Bukats, rusa must not be eaten unless one has a child, but with the Punans it is permissible in any case. The meat of pig is often eaten when ten days old, and is preferred to that which is fresh. In this they share the taste of the Dayak tribes I have met, with the exception of the Long-Glats. I have known the odour from putrefying pork to be quite overpowering in a kampong, and still this meat is eaten without any ill effect. Salt is not used unless introduced by Malay traders. And evidently it was formerly not known to the Dayaks.

None of these jungle people steal and they do not lie, although children may do either. They were much afraid of being photographed and most of the Bukats declined. A Bukat woman had tears in her eyes as she stepped forward to be measured, but smiled happily when receiving her rewards of salt, tobacco, and a red handkerchief. It had been worth while to submit to the strange ways of the foreigner.

Both tribes are strictly monogamous and distinguished by the severe view they take of adultery, which, however, seldom occurs. While it is regarded as absolutely no detriment to a young girl to sleep with a young man, matrimonial unfaithfulness is relentlessly punished. Payment of damages is impossible. The injured Punan husband cuts the head from both wife and corespondent

and retires to solitude, remaining away for a long time, up to two years. If the husband fails to punish, then the woman's brother must perform the duty of executioner. The Bukats are even more severe. The husband of an erring wife must kill her by cutting off her head, and it is incumbent on her brother to take the head of the husband. At present the Punans and Bukats are relinquishing these customs through fear of the Company.

The Bukats told me that they originally came from the river Blatei in Sarawak, and that Iban raids had had much to do with their movements. According to their reports the tribe had recently, at the invitation of the government, left the mountains and formed several kampongs in the western division. One of them, with short stubby fingers, had a broad Mongolian face and prominent cheek-bones, but not Mongolian eyes, reminding me somewhat of a Laplander.

The Punans and the Bukats have not yet learned to make prahus, but they are experts in the manufacture of sumpitans. They are also clever at mat-making, the men bringing the rattan and the women making the mats. Cutting of the teeth is optional. The gall of the bear is used as medicine internally and externally. In case of fractured bones a crude bandage is made from bamboo sticks with leaves from a certain tree. For curing disease the Punans use strokes of the hand. Neither of these nomadic tribes allow a man present when a woman bears a child. After child-birth women abstain from work four

days. When anybody dies the people flee, leaving the corpse to its fate.

Having accomplished as much as circumstances permitted, in the latter part of May we changed our encampment to Long Tjehan, the principal kampong of the Penihings, a little further down the river. On a favourable current the transfer was quickly accomplished. We were received by friendly natives, who came voluntarily to assist in putting up my tent, laying poles on the moist ground, on which the boxes were placed inside. They also made a palisade around it as they had seen it done in Long Kai, for the Dayaks are very adaptable people. Several men here had been to New Guinea and they expressed no desire to return, because there had been much work, and much beri-beri from which some of their comrades had died. One of them had assisted in bringing Doctor Lorenz back after his unfortunate fall down the ravine on Wilhelmina Top.

CHAPTER XXI

AN EXCURSION DOWN THE RIVER—LONG PAHANGEI—THE OMA-SULINGS—THE GREAT TRIENNIAL FESTIVAL—HOSPITABLE NATIVES—INCIDENTS IN PHOTOGRAPHY

It is significant as to the relations of the tribes that not only Bukats and Punans, but also the Saputans, are invited to take part in a great triennial Bahau festival when given at Long Tjehan. Shortly after our arrival we were advised that this great feast, which here is called tása and which lasts ten days, was to come off immediately at an Oma-Suling kampong, Long Pahangei, further down the river.

Though a journey there might be accomplished in one day, down with the current, three or four times as long would be required for the return. However, as another chance to see such a festival probably would not occur, I decided to go, leaving the sergeant, the soldier collector, and another soldier behind, and two days later we were preparing for departure in three prahus.

What with making light shelters against sun and rain, in Malay called atap, usually erected for long journeys, the placing of split bamboo sticks in the bottom of my prahu, and with the Penihings evidently unaccustomed to such work, it was eight o'clock before the start was made. Pani, a small tributary forming the boundary between the Penihings and the Kayans, was soon left

behind and two hours later we passed Long Blu, the great Kayan kampong. The weather was superb and the current carried us swiftly along. The great Mahakam River presented several fine, extensive views, with hills on either side, thick white clouds moving slowly over the blue sky. As soon as we entered the country of the Oma-Suling it was pleasant to observe that the humble cottages of the ladangs had finely carved wooden ornaments standing out from each gable.

We arrived at Long Pahangei (*h* pronounced as Spanish jota) early in the afternoon. Gongs were sounding, but very few people were there, and no visitors at all, although this was the first day of the feast. This is a large kampong lying at the mouth of a tributary of the same name, and is the residence of a native district kapala. After I had searched everywhere for a quiet spot he showed me a location in a clump of jungle along the river bank which, when cleared, made a suitable place for my tent. Our Penihings were all eager to help, some clearing the jungle, others bringing up the goods as well as cutting poles and bamboo sticks. Evidently they enjoyed the work, pitching into it with much gusto and interest. The result was a nice though limited camping place on a narrow ridge, and I gave each man one stick of tobacco as extra payment.

During our stay here much rain fell in steady downpours lasting a night or half a day. As the same condition existed higher up the river, at times the water rose menacingly near my tent, and for one night I had to move away. But rain in these tropics is never merciless, it

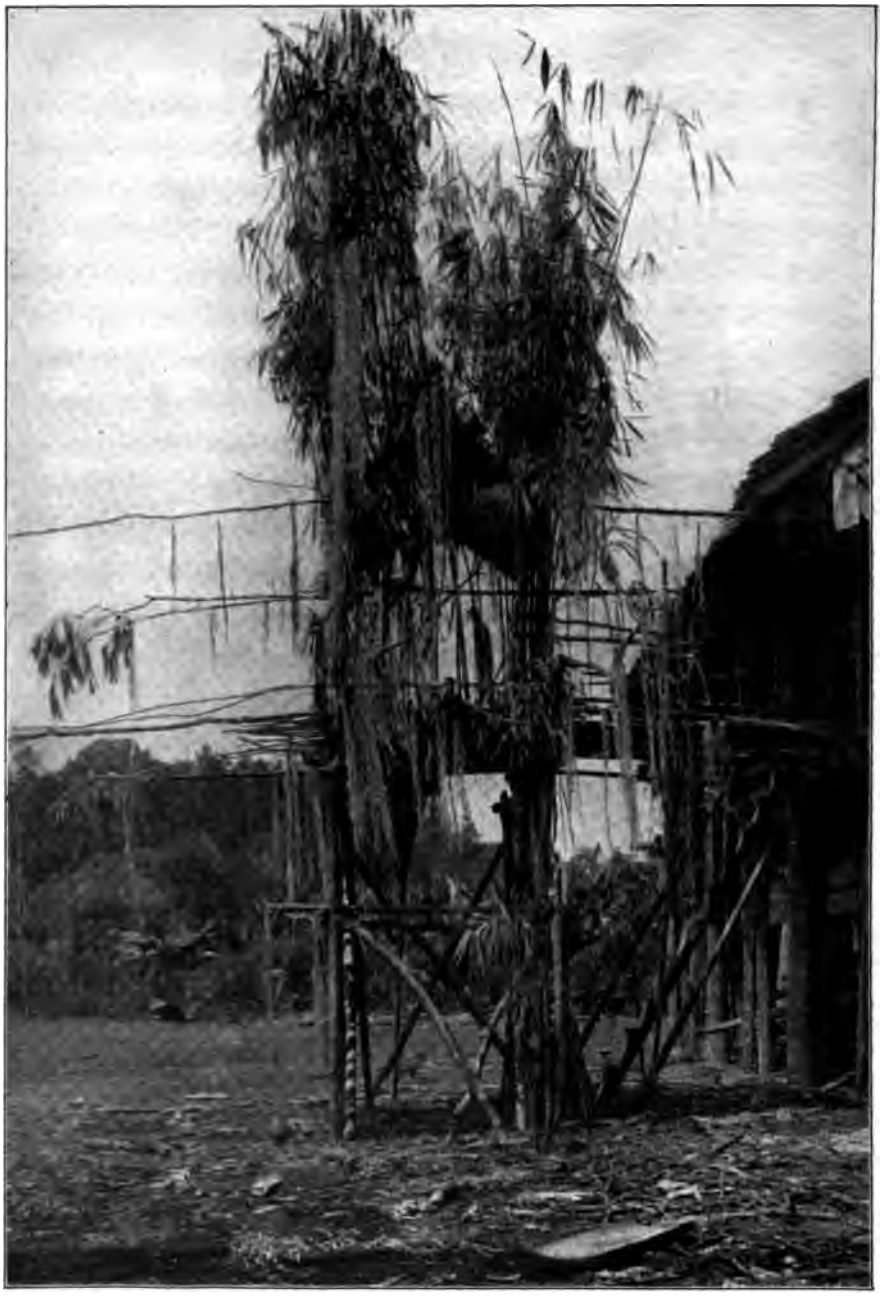
seems to me. Back from the coast there is seldom any wind, and in the knowledge that at any time the clouds may give place to brilliant sunshine, it is not at all depressing. Of course it is better to avoid getting wet through, but when this occurs little concern is felt, because one's clothing dries so quickly.

The Oma-Sulings are pleasant to deal with, being bashful and unspoiled. The usual repulsive skin diseases are seldom seen, and the women are attractive. There appears to have been, and still is, much intercourse between the Oma-Sulings and their equally pleasant neighbours to the east, the Long-Glats. Many of the latter came to the feast and there is much intermarrying among the nobles of the two tribes. Lidju, my assistant and friend here, was a noble of the Long-Glats with the title of raja and married a sister of the great chief of the Oma-Sulings. She was the principal of the numerous female blians of the kampong, slender of figure, active both in her profession and in domestic affairs, and always very courteous. They had no children. Although he did not speak Malay very well, still, owing to his earnestness of purpose, Lidju was of considerable assistance to me.

The kampong consists of several long houses of the usual Dayak style, lying in a row and following the river course, but here they were separated into two groups with a brook winding its way to the river between them. Very large drums, nearly four metres long, hung on the wall of the galleries, six in one house, with the head somewhat higher than the other end. This instrument, slightly conical in shape, is formed from a log of fine-

THE MÉLAH CEREMONY FOR IMPARTING HEALTH AND STRENGTH. LONG PAHANGEI

OMA-SULINGS. LONG PAHANGEI



THE DÂNGEI HUT, A TEMPORARY PLACE OF WORSHIP

The hut is built on a level with the gallery of the house and erected for the special purpose of the feast

grained wood, light in colour, with a cover made from wild ox hide. An especially constructed iron tool driven by blows from a small club is used to hollow out the log, and the drum is usually completed in a single night, many men taking turns. In one part of the house lying furthest west lived Dayaks called Oma-Palo, who were reported to have been in this tribe a hundred years. They occupied "eight doors," while further on, in quarters comprising "five doors," dwelt Oma-Tepe, more recent arrivals; and both clans have married Oma-Suling women.

The purpose of the great feast that filled everybody's thoughts is to obtain many children, a plentiful harvest, good health, many pigs, and much fruit. A prominent Dayak said to me: "If we did not have this feast there would not be many children; the paddi would not ripen well, or would fail; wild beasts would eat the fowls, and there would be no bananas or other fruits." The first four days are chiefly taken up with preparations, the festival occurring on the fifth and sixth days. A place of worship adjoining the front of the easternmost house was being constructed, with a floor high above ground on a level with the gallery, with which it was connected by a couple of planks for a bridge. Although flimsily built, the structure was abundantly strong to support the combined weight of the eight female blians who at times performed therein. The hut, which was profusely decorated with long, hanging wood shavings, is called dángei and is an important adjunct of the feast, to which the same name is sometimes given. Ordinary people are not allowed to enter, though they may ascend the ladder,

giving access to the gallery, in close proximity to the sanctuary.

Prior to the fifth day a progressive scale is observed in regard to food regulations, and after the sixth, when the festive high mark is reached, there is a corresponding decrease to normal. Only a little boiled rice is eaten the first day, but on the second, third, and fourth, rations are gradually increased by limited additions of toasted rice. The fifth and sixth days give occasion for indulgence in much rice and pork, the quantity being reduced on the seventh, when the remaining pork is finished. On the eighth and ninth days the regulations permit only boiled and toasted rice. Not much food remains on the tenth, when the menu reverts to boiled rice exclusively. Some kinds of fish may be eaten during the ten-day period, while others are prohibited.

It was interesting to observe what an important part the female blians or priest-doctors played at the festival. They were much in evidence and managed the ceremonies. The men of the profession kept in the background and hardly one was seen. During the feast they abstain from bathing for eight days, do not eat the meat of wild babi, nor salt; and continence is the rule. Every day of the festival, morning, afternoon, and evening, a service is performed for imparting health and strength, called melah, of which the children appear to be the chief beneficiaries. Mothers bring babes in cradles on their backs, as well as their larger children. The blian, who must be female, seizing the mother's right hand with her left, repeatedly passes the blade of a big knife up her arm. The

child in the cradle also stretches out its right arm to receive treatment, while other children and women place their right hands on the hand and arm of the first woman, five to ten individuals thus simultaneously receiving the passes which the blian dispenses from left to right. She accompanies the ceremony with murmured expressions suggesting removal from the body of all that is evil, with exhortations to improvement, etc.

This service concluded, a man standing in the background holding a shield with the inside uppermost, advances to the side of the mother and places it horizontally under the cradle, where it is rapidly moved forward and backward. Some of the men also presented themselves for treatment after the manner above described, and although the melah performance is usually reserved for this great feast, it may be employed by the blian for nightly service in curing disease.

This was followed by a dance of the blians present, nine or ten in number, to the accompaniment of four gongs and one drum. They moved in single file, most of them making two steps and a slight turn to left, two steps and a slight turn to right, while others moved straight on. In this way they described a drawn-out circle, approaching an ellipse, sixteen times. After the dancing those who took part in the ceremonies ate toasted rice. Each day of the feast in the afternoon food was given to antoh by blians and girl pupils. Boiled rice, a small quantity of salt, some dried fish, and boiled fowl were wrapped in pieces of banana leaves, and two such small parcels were offered on each occasion.

Meantime the festive preparations continued. Many loads of bamboo were brought in, because much rice and much pork was to be cooked in these handy utensils provided by nature. Visitors were slowly but steadily arriving. On the fourth day came the principal man, the Raja Besar (great chief), who resides a little further up the river, accompanied by his family. The son of a Long-Glat father and an Oma-Suling mother, Ledjuli claimed to be raja not only of these tribes, but also of the Kayans. Next morning Raja Besar and his stately wife, of Oma-Suling nobility, accompanied by the kapala of the kampong and others, paid me a visit, presenting me with a long sugarcane, a somewhat rare product in these parts and considered a great delicacy, one large papaya, white onions, and bananas. In return I gave one cake of chocolate, two French tins of meat, one tin of boiled ham, and tobacco.

Domestic pigs, of which the kampong possessed over a hundred, at last began to come in from the outlying ladangs. One by one they were carried alive on the backs of men. The feet having first been tied together, the animal was enclosed in a coarse network of rattan or fibre. For the smaller specimens tiny, close-fitting bamboo boxes had been made, pointed at one end to accommodate the snout. The live bundles were deposited on the galleries, and on the fifth day they were lying in rows and heaps, sixty-six in number, awaiting their ultimate destiny. The festival was now about to begin in earnest and an air of expectancy was evident in the faces of the natives. After the performance of the melah and the

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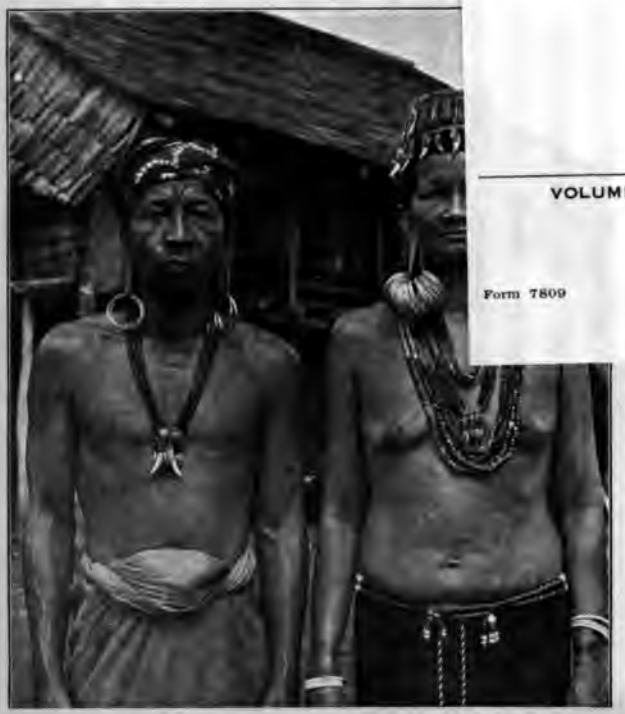


THE RAJA BESAR, OR GREAT CHIEF, AND HIS WIFE.
LONG PAHANGEI

He was the greatest chief met on the journey, and they were both very friendly

LARGE WOODEN DRUM, LONG PAHANGEI

The wicker case above is used as a protection for the head of the drum

LIDJU, A LONG-GLAT NOBLE, AND HIS WIFE, THE SISTER OF THE RAJÁ BESAR.
LONG PAHANGEI

dance of the blians, and these were a daily feature of the great occasion, a dance hitherto in vogue at night was danced in the afternoon. In this the people, in single file, moved very slowly with rythmic steps, describing a circle around three blians, including the principal one, who sat smoking in the centre, with some bamboo baskets near by. Next morning the circular dance was repeated, with the difference that the participants were holding on to a rope.

About four o'clock in the afternoon the Dayaks began to kill the pigs by cutting the artery of the neck. The animals, which were in surprisingly good condition, made little outcry. The livers were examined, and if found to be of bad omen were thrown away, but the pig itself is eaten in such cases, though a full-grown fowl or a tiny chicken only a few days old must be sacrificed in addition. The carcasses were freed from hair by fire in the usual way and afterward cleaned with the knife. The skin is eaten with the meat, which at night was cooked in bamboo. Outside, in front of the houses, rice cooking had been going on all day. In one row there were perhaps fifty bamboos, each stuffed with envelopes of banana leaves containing rice, the parcels being some thirty centimetres long and three wide.

During the night there was a grand banquet in all the houses. Lidju, my assistant, did not forget, on this day of plenty, to send my party generous gifts of fresh pork. To me he presented a fine small ham. As salt had been left behind we had to boil the meat à la Dayak in bamboo with very little water, which compensates for the ab-

sence of seasoning. A couple of men brought us two bamboos containing that gelatinous delicacy into which rice is transformed when cooked in this way. And, as if this were not enough, early next morning a procession arrived carrying food on two shields, the inside being turned upward. On these were parcels wrapped in banana leaves containing boiled rice, to which were tied large pieces of cooked pork. The first man to appear stepped up to a banana growing near, broke off a leaf which he put on the ground in front of me, and placed on it two bundles. The men were unable to speak Malay and immediately went away without making even a suggestion that they expected remuneration, as did the two who had given us rice. I had never seen them before.

The sixth day was one of general rejoicing. Food was exchanged between the two groups of houses and people were in a very joyful mood, eating pork, running about, and playing tricks on each other. Both men and women carried charcoal mixed with the fat of pork, with which they tried to smear the face and upper body of all whom they met. All were privileged to engage in this sport but the women were especially active, pursuing the men, who tried to avoid them, some taking refuge behind my tent. The women followed one man through the enclosure surrounding the tent, at my invitation, but they did not succeed in catching him. This practical joking was continued on the following days except the last.

The Oma-Palo had their own festival, which lasted only one day. It began in the afternoon of the sixth day

and I went over to see it. The livers of the pigs were not in favourable condition, which caused much delay in the proceedings, and it was nearly five o'clock when they finally began to make a primitive dángei hut, all the material for which had been gathered. A few slim upright poles with human faces carved at the upper ends were placed so as to form the outline of a quadrangle. On the ground between them planks were laid, and on the two long sides of this space were raised bamboo stalks with leaves on, which leaned together and formed an airy cover. It was profusely adorned with wood shavings hung by the ends in long spirals, the whole arrangement forming a much simpler house of worship than the one described above. The kapala having sacrificed a tiny chicken, a man performed a war dance on the planks in superb fashion, and after that two female blians danced. Next morning I returned and asked permission to photograph the dancing. The kapala replied that if a photograph were made while they were working—that is to say, dancing—they would have to do all their work over again, otherwise some misfortune would come upon them, such as the falling of one of the bamboo stalks, which might kill somebody. Later, while they were eating, for example, there would be no objection to the accomplishment of my desire.

With the eighth day an increased degree of ceremonials became noticeable, and in order to keep pace therewith I was driven to continuous activity. On a muggy, warm morning I began work by photographing the Raja Besar, who had given me permission to take himself and his fam-

ily. When I arrived at the house where he was staying he quickly made his preparations to "look pleasant," removing the large rings he wore in the extended lobes of his ears and substituting a set of smaller ones, eight for each ear. He was also very particular in putting on correct apparel, whether to appear in warrior costume or as a private gentleman of the highest caste. His sword and the rest of his outfit, as might be expected, were of magnificent finish, the best of which Dayak handicraft is capable. He made altogether a splendid subject for the camera, but his family proved less satisfactory. I had to wait an hour and a half before his womenfolk were ready, femininity apparently being alike in this regard in all races. When they finally emerged from the house in great array (which showed Malay influence) they were a distinct disappointment.

The raja, who was extremely obliging, ordered the principal men of the kampong to appear in complete war outfit, and showed us how an imaginary attack of Iban head-hunters would be met. They came streaming one after another down the ladder, made the evolutions of a running attack in close formation, holding their large shields in front of them, then ran to the water and paddled away, standing in their prahus, to meet the supposed enemy in the utan on the other side of the river.

At noon the female blians were preparing for an important ceremony in the dángei hut, with a dance round it on the ground later, and I therefore went up to the gallery. The eight performers held each other by the hands in a circle so large that it filled the hut. Con-

stantly waving their arms backward and forward they moved round and round. Some relics from Apo Kayan were then brought in: a small, shining gong without a knob and a very large bracelet which looked as if it had been made of bamboo and was about eight centimetres in diameter. One of the blians placed the bracelet round her folded hands and then ran round the circle as well as through it; I believe this was repeated sixteen times. When she had finished running they all walked in single file over into the gallery in order to perform the inevitable mélah.

Shortly afterward followed a unique performance of throwing rice, small bundles of which, wrapped in banana leaves, were lying in readiness on the floor. Some of the men caught them with such violence that the rice was spilled all about, and then they flipped the banana leaves at those who stood near. Some of the women had crawled up under the roof in anticipation of what was coming. After a few minutes passed thus, the eight blians seated themselves in the dángei hut and prepared food for antoh in the way described above, but on this occasion one of them pounded paddi with two short bamboo sticks, singing all the while.

A very amusing entertainment then began, consisting of wrestling by the young men, who were encouraged by the blians to take it up and entered the game with much enthusiasm, one or two pairs constantly dancing round and round until one became the victor. The participants of their own accord had divested themselves of their holiday chavats and put on small ones for wrestling.

With the left hand the antagonist takes hold of the descending portion of the chavat in the back, while with the right he grasps the encircling chavat in front. They wrestled with much earnestness but no anger. When the game was continued the following morning the young men presented a sorry spectacle. Rain had fallen during the night, and the vanquished generally landed heavily on their backs in the mud-holes, the wrestlers joining in the general laugh at their expense. To encourage them I had promised every victor twenty cents, which added much to the interest.

Having concluded their task of feeding the antohs the blians climbed down the ladder and began a march in single file round the dángei hut, each carrying one of the implements of daily life: a spear, a small parang, an axe, an empty rattan bag in which the bamboos are enclosed when the woman fetches water, or in which vegetables, etc., are conveyed, and another bag of the same material suitable for transporting babi. Four of the women carried the small knife which is woman's special instrument, though also employed by the men. When the eight blians on this, the eighth day, had marched sixteen times around the dángei they ascended the ladder again. Shortly afterward a man standing on the gallery pushed over the flimsy place of worship—a signal that the end of the feast had come. On the previous day a few visitors had departed and others left daily.

The feast had brought together from other parts about 200 Oma-Sulings and Long-Glats. The women of both tribes showed strikingly fine manners, especially those be-

COOKING RICE IN BAMBOO RECEPTACLES. LONG PAHANGEI

LUNG KARANG, A LIMESTONE HILL, NEAR LONG TJEHAN, ON THE MAHAKAM RIVER

longing to the higher class, which was well represented. Some were expensively dressed, though in genuine barbaric fashion as indicated by the ornaments sewn upon their skirts, which consisted of hundreds of florins and ringits. It should be conceded, however, that with the innate artistic sense of the Dayaks, the coins, all scrupulously clean, had been employed to best advantage in pretty designs, and the damsels were strong enough to carry the extra burden.

The climax had been passed and little more was going on, the ninth day being given over to the amusement of daubing each other with black paste. On the tenth day they all went away to a small river in the neighbourhood, where they took their meals, cooking paddi in bamboo, also fish in the same manner. This proceeding is called násam, and the pemáli (tabu) is now all over. During the days immediately following the people may go to the ladang, but are obliged to sleep in the kampong, and they must not undertake long journeys. When the feast ended the blians placed four eggs in the clefts of four upright bamboo sticks as sacrifice to antoh. Such eggs are gathered from hens that are sitting, and those which have become stale in unoccupied nests are also used. If there are not enough such eggs, fresh ones are taken.

CHAPTER XXII

DAYAK DOGS—A FUNERAL ON THE MAHAKAM—OUR RETURN JOURNEY—AGAIN AT LONG TJEHAN—IN SEARCH OF A UNIQUE ORCHID—A BURIAL CAVE

EVERY night while we were camped here, and frequently in the day, as if controlled by magic, the numerous dogs belonging to the Dayaks suddenly began to howl in chorus. It is more ludicrous than disagreeable and is a phenomenon common to all kampongs, though I never before had experienced these manifestations in such regularity and perfection of concerted action. One or two howls are heard and immediately all canines of the kampong and neighbouring ladangs join, perhaps more than a hundred in one chorus. At a distance the noise resembles the acclamations of a vast crowd of people. The Penihings and Oma-Sulings treat man's faithful companion well, the former even with affection; and the dogs, which are of the usual type, yellowish in colour, with pointed muzzle, erect ears, and upstanding tail, are in fine condition. A trait peculiar to the Dayak variety is that he never barks at strangers, permitting them to walk on the galleries or even in the rooms without interference. Groups of these intelligent animals are always to be seen before the house and on the gallery, often in terrific fights among themselves, but never offensive to strangers.

They certainly serve the Dayaks well by holding the

pig or other animal at bay until the men can come up and kill it with spear. Some of them are afraid of bear, others attack them. They are very eager to board the prahus when their owners depart to the ladangs, thinking that it means a chase of the wild pig. Equally eager are they to get into the room at night, or at any time when the owner has left them outside. Doors are cleverly opened by them, but when securely locked the dogs sometimes, in their impatience, gnaw holes in the lower part of the door which look like the work of rodents, though none that I saw was large enough to admit a canine of their size. One day a big live pig was brought in from the utan over the shoulder of a strong man, its legs tied together, and as a compliment to me the brute was tethered to a pole by one leg, while the dogs, about fifty, barked at and harassed it. This, I was told, is the way they formerly were trained. As in a bull-fight, so here my sympathy was naturally with the animal, which managed to bite a dog severely in the side and shook another vigorously by the tail. Finally some young boys gave it a merciful death with spears.

A woman blian died after an illness of five days, and the next forenoon a coffin was made from an old prahu. She had not been ill long, so the preparations for the funeral were brief. Early in the afternoon wailing was heard from the gallery, and a few minutes later the cortège emerged on its way to the river bank, taking a short cut over the slope between the trees, walking fast because they feared that if they lingered other people might become ill. There were only seven or eight mem-

ing its head and body, the other its tail. Before being placed on the gables a sacrifice had been offered and the carvings had been smeared with blood—in other words, to express the thought of the Dayak, as this antoh is very fierce when aroused to ire, it had first been given blood to eat, in order that it should not be angry with the owner of the house, but disposed to protect him from his enemies. While malevolent spirits do not associate with good ones, some which usually are beneficent at times may do harm, and among these is one, the nagah, that dominates the imagination of many Dayak tribes. It appears to be about the size of a rusa, and in form is a combination of the body of that animal and a serpent, the horned head having a disproportionately large dog's mouth. Being an antoh, and the greatest of all, it is invisible under ordinary conditions, but lives in rivers and underground caves, and it eats human beings.

Lidju, who accompanied me as interpreter and to be generally useful, had aroused the men early in the morning to cook their rice, so that we could start at seven o'clock, arriving in good time at the Kayan kampong, Long Blu. Here, on the north side of the river, was formerly a small military establishment, inhabited at present by a few Malay families, the only ones on the Mahakam River above the great kihams. Accompanied by Lidju I crossed the river to see the great kampong of the Kayans.

Ascending the tall ladder which leads up to the kampong, we passed through long, deserted-looking galleries, and from one a woman hurriedly retired into a room. The inhabitants were at their ladangs, most of them four

hours' travel from here. Arriving finally at the house of Kwing Iran, I was met by a handful of people gathered in its cheerless, half-dark gallery. On our return to a newly erected section of the kampong we met the intelligent kapala and a few men. Some large prahus were lying on land outside the house, bound for Long Iram, where the Kayans exchange rattan and rubber for salt and other commodities, but the start had been delayed because the moon, which was in its second quarter, was not favourable. These natives are reputed to have much wang, owing to the fact that formerly they supplied rice to the garrison, receiving one ringit for each tinful.

Though next day was rainy and the river high, making paddling hard work, we arrived in good time at Long Tjehan and found ourselves again among the Penihings. During the month I still remained here I made valuable ethnological collections and also acquired needed information concerning the meaning and use of the different objects, which is equally important. The chief difficulty was to find an interpreter, but an intelligent and efficient Penihing offered his services. He "had been to Soerabaia," which means that he had been at hard labour, convicted of head-hunting, and during his term had acquired a sufficient knowledge of Malay to be able to serve me. My Penihing collections I believe are complete. Of curious interest are the many games for children, among them several varieties of what might be termed toy guns and different kinds of puzzles, some of wood while others are plaited from leaves or made of thread.

The kampong lies at the junction of the Mahakam

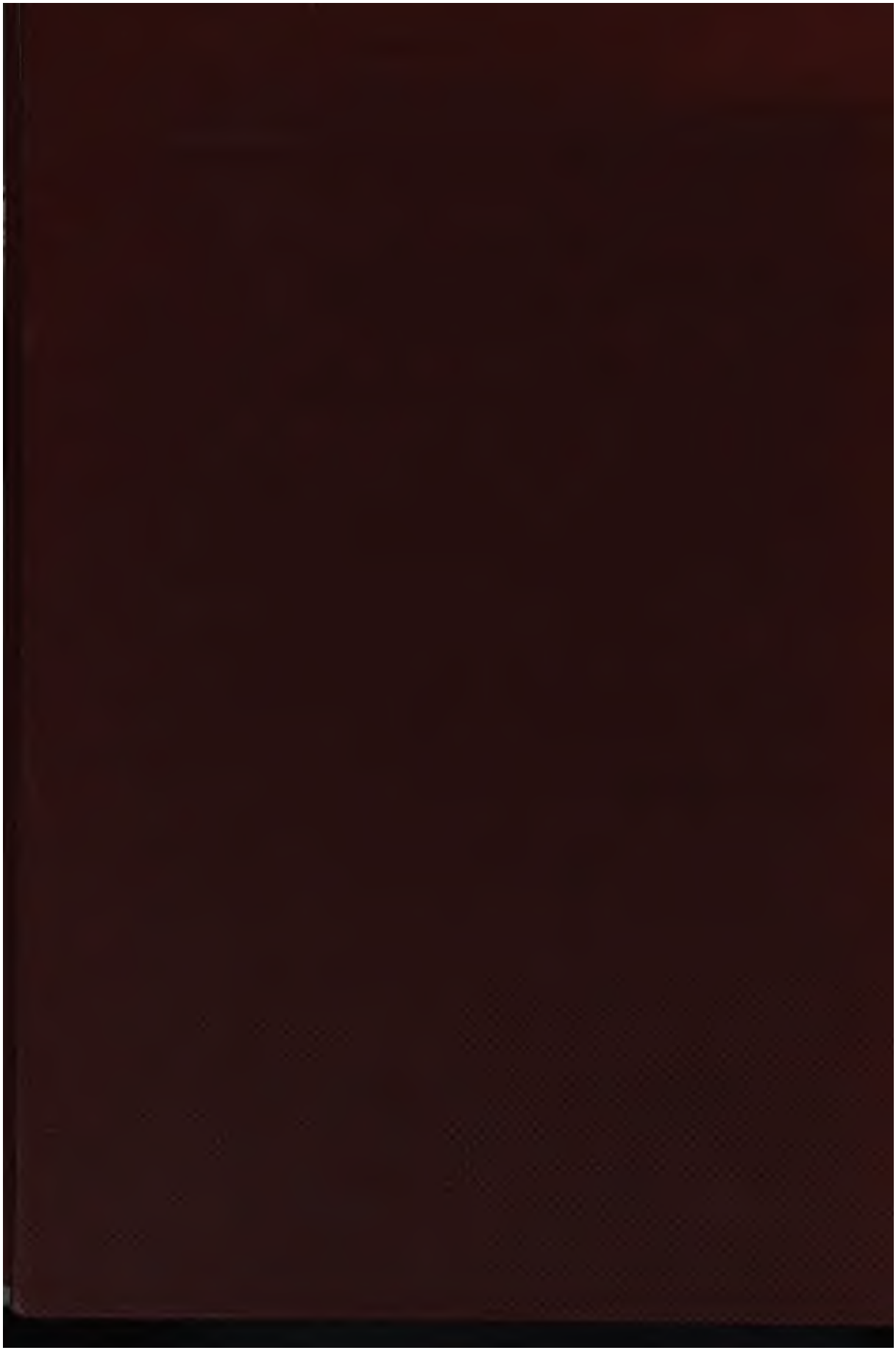
and a small river called Tjehan, which, like several other affluents from the south, originates in the dividing range. The Tjehan contains two or three kihams but is easy to ascend, and at its head-waters the range presents no difficulties in crossing. This is not the case at the sources of the Blu, where the watershed is high and difficult to pass. Small parties of Malays occasionally cross over to the Mahakam at these points as well as at Pahangei. In the country surrounding the kampong are several limestone hills, the largest of which, Lung Karang, rises in the immediate vicinity.

Doctor Nieuwenhuis on his journey ascended some distance up the Tjehan tributary, and in the neighbourhood of Lung Karang his native collector found an orchid which was named *phalænopsis gigantea*, and is known only from the single specimen in the botanical garden at Buitenzorg, Java. On a visit there my attention was drawn to the unusual size of its leaves and its white flowers. I then had an interview with the Javanese who found it, and decided that when I came to the locality I would try to secure some specimens of this unique plant. Having now arrived in the region, I decided to devote a few days to looking for the orchid and at the same time investigate a great Penihing burial cave which was found by my predecessor.

Accompanied by two of our soldiers and with five Dayak paddlers, I ascended the Tjehan as far as the first kiham, in the neighbourhood of which I presumed that the burial cave would be and where, therefore, according to the description given to me, the orchid should be found.

PENIHING BURIAL CAVE, NEAR THE TJEHAN RIVER

PENIHING WOMEN CARRYING WATER. LONG KAI

PENIHINGS, FROM LONG KAI

The one in the middle is wearing a padded war tunic, now very rare